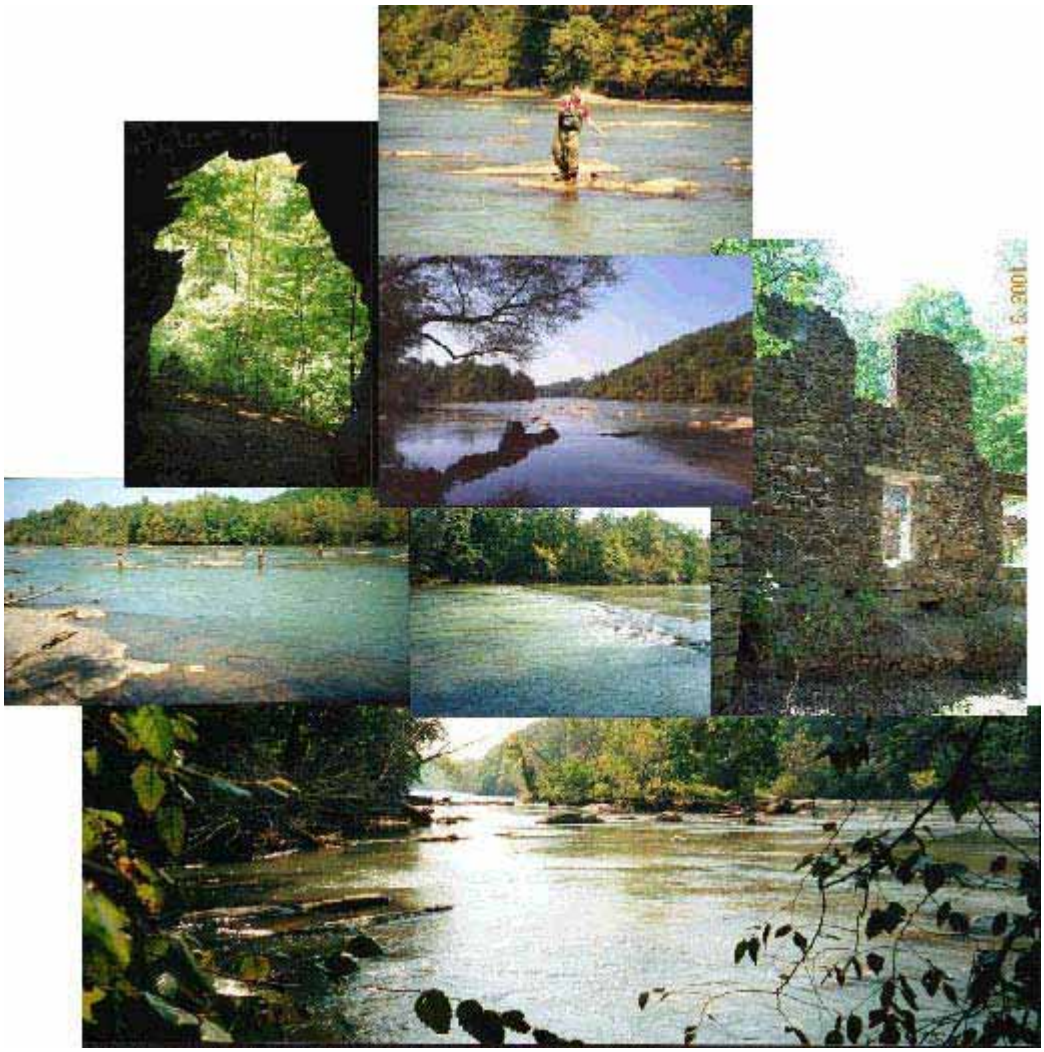
ENVIRONMENTAL CONSEQUENCES



ENVIRONMENTAL CONSEQUENCES

IMPACT ASSESSMENT METHODOLOGY

The interdisciplinary planning team created a process for impact assessment based on the directives of the Director's Order #12 handbook (Section 4.5(g)) (National Park Service 2001a) . The methods are generally described in this section.

Step 1: For each impact topic, identify applicable regulations that affect that resource, visitor experience, or issue area. The section entitled "Servicewide Mandates and Policies" summarizes the applicable regulations for each impact topic. Impact topics are presented in the section entitled "Affected Environment". The impacts of each alternative on the environment are assessed in accordance with the applicable regulations and policies as defined in the NPS *Planners' Sourcebook: Director's Order 2: Park Planning, Framework for National Park Servic,e Park Planning and Decision Making* (National Park Service 1999) and *Director's Order #12: Conservation Planning, Environmental Impact Analysis, and Decision- making* and the accompanying *Handbook for Environmental Impact Analysis* (National Park Service 2001a). NPS regulations and policies are in turn based on the requirements of the National Park Service Organic Act (16 U.S.C. l 2 3, and 4; Act of Aug. 25 1916 (39 Stat. 535, and amendments thereto), Council on Environmental Quality regulations (43 FR 56003, Nov. 29, 1978; 44 FR 874, Jan. 3, 1979)(CEQ 1978), and the requirements of the National Environmental Policy Act of 1969, as amended (Pub. L. 91- 190, 42 U.S.C. 4321- 4347, January 1, 1970, as amended by Pub. L. 94- 52, July 3, 1975, Pub. L. 94- 83, August 9, 1975, and Pub. L. 97- 258, § 4(b), Sept. 13, 1982).

These laws, regulations and policies require: (1) a generic, program- level assessment of the potential environmental effects of the alternatives; (2) a comparison of the effects of each of the action alternatives with the No Action Alternative as a basis for predicting future conditions; (3) an assessment of the duration, intensity, and context of the potential effects of proposed actions as a means evaluating the potential significance of anticipated environmental impacts; and (4) a demonstration that "impairment" of park resources would not result from implementation by any of the proposed alternatives. The methods presented in this section meets all of these requirements.

All of the referenced legal and regulatory requirements have been incorporated into the methodology for assessing impacts in this general management plan/environmental impact statement.

Step 2: Define issues of concern based on public input. The issues of concern are summarized in the section entitled "Alternatives" and Table C- 1 in Appendix C. To assure that all issues identified during scoping were fully assessed, all impact topics were also cross- linked to the original list of issues identified by the public during scoping of the general management plan/environmental impact statement. Appendix Table C- 1 lists the original issues identified during public meetings and workshops. Appendix Table C- 2 includes these links.

Step 3: Identify the geographic area that could be affected. The geographic area is either regional or local. Regional effects are defined as those types of changes that would result within the Atlanta Metropolitan Area. Local effects are defined as those types of effects that occur wither within the park, or within a short distance from the park's boundaries. Because the Chattahoochee River National Recreation Area is a very narrow park over 48 miles in length, and is located in the center of a rapidly developing urban and suburban area, local effects vary from north to south and are largely dependent on whether the area is urban or suburban. The southern portion of the park in Fulton County and lower Cobb County is located in more densely populated urbanized areas and experiences the greatest amount of visitor use, especially at the Cochran Shoals and Vickery Creek areas. The northern portion of the park, primarily in Gwinnett, Forsyth and northern Cobb counties, is surrounded primarily by suburban communities with some rapidly growing urban areas. This portion of the park experiences much lower levels of visitor use. These geographic factors are assessed in the impact analysis, and are important features of the park. Also, because rapid growth is occurring

throughout the entire 48- mile corridor of the park in various forms, these geographic differences are expected to change in the next planning period, and are expected to be an important factor affecting the park through encroachment, increased trail and park facility use, and increased levels of stormwater runoff reaching the park through large numbers of perennial and intermittent streams that connect the park to adjoining areas. These potentially adverse effects are exacerbated by the fact that the watershed is long and narrow, with little chance for retardation of stream flow by settling. In the long- term, therefore, the location of the park will play a major role in future conditions within the park, especially for terrestrial ecological resources and water resources. These effects are defined qualitatively in the general management plan/environmental impact statement using available information on the geographic features of the park, information on the natural and cultural resources in the park, as well as information on expected future growth and transportation patterns.

Step 4: Define the resources and visitor experiences within the area that could be affected. This information is included in the "Affected Environment" section according to impact topics identified during public meetings and workshops.

Step 5: Compare the resources and visitor experiences in the park to the area of potential effect. This step was taken to establish a qualitative basis for comparing the effects of the action alternative to those of the No Action Alternative. The following assumptions were used in this analysis:

> Resources in the park include, for example, wetlands, terrestrial ecological habitats, endangered species, prime and unique farmlands, floodplains, historical and archeological sites.
>
> The area of potential effect refers to the extent to which an alternative might impact the various resources.
>
> Current visitor experiences in the park include hiking, mountain and street biking, walking for exercise, jogging, fishing, motor boating, canoeing, kayaking, rafting, picnicking, and nature observation.
>
> Each alternative would have a different area of potential effect because each involves different levels of facility use and development and different types of visitor use and experience.
>
> The area of potential effect is related to the combinations of zones assigned to each alternative. Alternatives that involve more active forms of recreation and more potential for construction of park facilities were assumed to have a greater or lesser area of potential effect relative to the No Action Alternative. The percentage of the total acreage of the park occupied by each zone under each alternative was used as an indicator of the level of facility development and the types of visitor experience, types of facilities, and types of appropriate activities that would occur under each alternative (Table 19).
>
> Higher levels of park- related construction and more active forms of visitor use would occur in the Developed Zone, Natural Area Recreation Zone, and Cultural Resource Zone. The percentages of the total acreage of the park occupied by each of these three zones were therefore added to provide a relative basis for comparison. In contrast, lower levels of park- related construction and more passive visitor activities and types of experience would occur in the Urban Primitive Zone and Pristine River Zone, so these percentages were also combined (Table 19).
>
> Under the No Action Alternative, existing management policies would be continued, with some new construction, but it was assumed that existing levels of park planning would expected to continue into the future. Therefore, resource planning and implementation would continue with gaps and limitations due to existing levels of funding and staffing.

All of this information was used in qualitatively to determine the potential area of effect in relation to resources. Detailed descriptions of how this determination was made for each impact topic are provided in the individual sections.

Table 19. Primary Features of Each Alternative and Percentages of total 10,000 Acre Park in Each Zone.

Alternative	Visitor Experience	Types of Facilities	Appropriate Activities	Percentage of Total 10,000 Acre Park Designated for Each Zone and Subtotals for Specific Zones						
				Developed Zone	Natural Area Recreation Zone	Cultural Resource Zone	Sub Total[1]	Urban Primitive Zone	Pristine River Zone	Sub Total[2]
Focus on Solitude	Highest relative degree of solitude; Environmental education programs emphasized.	Unpaved walking trails only; No trails or structures allowed next to river; new facilities constructed outside park boundaries; Extensive habitat restoration; natural habitats maintained to greatest extent possible. Five Developed Zones No Hubs	Non-mechanized boating only - (canoeing, rafting); hiking, fishing (from bank only in Pristine River Zone), passive recreation only	2.73	20.27	8.75	31.75	49.00	19.25	68.25
Centralized Access	Focused on the interpretive activities and other facilities within several "hubs", which would allow services for visitors to be expanded with minimal effects on natural and cultural	System of three relatively developed hubs for admin-istrative, and interpretive facilities. Three hubs consisting of trail head, parking lot, and minimal ancillary facilities.	Passive and active recreation: biking, hiking, fishing, rafting, canoeing. motor boating (in upper part of Bull Sluice	2.69	29.16	7.77	39.62	41.13	19.25	60.38

Table 19. Primary Features of Each Alternative and Percentages of total 10,000 Acre Park in Each Zone.

Alternative	Visitor Experience	Types of Facilities	Appropriate Activities	Percentage of Total 10,000 Acre Park Designated for Each Zone and Subtotals for Specific Zones						
				Developed Zone	Natural Area Recreation Zone	Cultural Resource Zone	Sub Total[1]	Urban Primitive Zone	Pristine River Zone	Sub Total[2]
Centralized Access (Cont.)	resources in the park. Visitors, in lower numbers, could enjoy the extensive natural habitats and cultural resources in the undeveloped portions of the park. Visitor activities in natural areas outside the hubs would be focused on achieving solitude in an urban environment. Environmental education programs would be emphasized. Visitor experience in this alternative would be more participatory. A nine- mile pristine river zone would be established.	Specific locations of the hubs have not yet been determined and are discussed generically in this document as a result. Five developed zones Hubs would provide visitor information, rest rooms, parking lot and roads, trail head, and access to the river. Trailheads and parking lots minimized outside of hubs. Would discourage expanded new entrances to the park. Would encourage NPS supervision, education, and monitoring where the use is greatest.	lake only)							

Table 19. Primary Features of Each Alternative and Percentages of total 10,000 Acre Park in Each Zone.

Alternative	Visitor Experience	Types of Facilities	Appropriate Activities	Percentage of Total 10,000 Acre Park Designated for Each Zone and Subtotals for Specific Zones						
				Developed Zone	Natural Area Recreation Zone	Cultural Resource Zone	Sub Total[1]	Urban Primitive Zone	Pristine River Zone	Sub Total[2]
Centralized Access (Cont.)		Public- private partnerships would be created to help manage and protect park resources, while at the same time allowing the public to enjoy the resources available.								
Expanded Use	Access to the park expanded for individuals, families, and day use visitors from business parks and neighborhoods. Would provide trail linkages to city/county-funded and supervised local county and or city parks. Trails from existing and proposed developments would be managed to encourage use by an expanded group of visitors. This would	Facilities for the park distributed throughout the 48 miles based upon availability of resources and local community support. No hubs Eleven Developed Zones A greater and more diverse population of residents would be served. Would have the potential to	Passive and active recreation: biking, hiking, fishing rafting, picnicking, canoeing. motor boating (in upper part of Bull Sluice lake only)	4.68	74.13	6.81	85.62	14.38	0	14.38

Table 19. Primary Features of Each Alternative and Percentages of total 10,000 Acre Park in Each Zone.

Alternative	Visitor Experience	Types of Facilities	Appropriate Activities	Percentage of Total 10,000 Acre Park Designated for Each Zone and Subtotals for Specific Zones						
				Developed Zone	Natural Area Recreation Zone	Cultural Resource Zone	Sub Total[1]	Urban Primitive Zone	Pristine River Zone	Sub Total[2]
Expanded Use (Cont.)	require a higher level of self- help and individual reliance from a wide range of sources. Implementation of a proactive NPS outreach program would be part of this alternative. Expanded use would de- emphasize solitude and emphasize a more social, community-based group experience. Characterized as a visitor experience of convenience and personal attachment.	strengthen community involvement in environmental protection of the park, and its resources. Through local self-help education and voluntary public/private partnerships, park stewardship could be enhanced. Expanding uses and access would require a redefinition of gathering spaces surrounding the park that would be used for picnics, celebrations, neighborhood meetings, and family walks,								

Table 19. Primary Features of Each Alternative and Percentages of total 10,000 Acre Park in Each Zone.

Alternative	Visitor Experience	Types of Facilities	Appropriate Activities	Percentage of Total 10,000 Acre Park Designated for Each Zone and Subtotals for Specific Zones						
				Developed Zone	Natural Area Recreation Zone	Cultural Resource Zone	Sub Total[1]	Urban Primitive Zone	Pristine River Zone	Sub Total[2]
No Action	Continue the current management pattern into the future.	The park would be maintained and managed similar to existing conditions. Some new facilities but an environmental assessment would be required for each one, not tiered to a general management Plan. No resource or trail management plans or visitor education and outreach programs The current park road system would be retained and existing traffic management would continue.	All current allowable activities: biking, fishing, hiking, rafting, canoeing. motor boating throughout the park, picnicking.	N/A	N/A	N/A		N/A	N/A	

Subtotal of Developed Zone, Natural Area Recreation Zone and Cultural Resource Zone represents areas zoned for more active visitor use, and potentially higher levels of construction of new facilities in developed zones.

Subtotal of Urban Primitive Zone and Pristine River Zone reflects greater emphasis of these zones on more passive forms of recreation, and very limited construction.

Step 6: Identify the effects caused by each alternative in relation to the No Action Alternative. These were estimated qualitatively using the following assumptions:

> The No Action Alternative would continue the existing management programs and plans in the park, and add some new facilities in the future. This alternative would have some degree of land disturbance as a result of construction of new facilities, and also as a result of lack of implementation of any new resource and other management plans. Conditions of resources in the park, as well as the quality of the visitor experience, would degrade to some extent as a result. However, environmental assessments would still be required for construction and operation of individual park projects, which would help assure that these effects were minimized or avoided to the extent possible.
>
> The Focus on Solitude Alternative would involve the least amount of land disturbance and would place greater emphasis on passive forms of visitor use as compared with the No Action Alternative. Resource and other management plans would also be implemented under this alternative that would benefit the park's resources and visitor experiences. Environmental assessments would be required for construction and operation of individual park projects, and they would be tiered to the general management plan/environmental impact statement. This would also benefit the park, and would help assure that these effects were minimized or avoided. Implementing plans would focus on avoiding or minimizing adverse effects to the extent possible.
>
> The Centralized Access Alternative would involve an intermediate amount of land disturbance and a more varied mixture of active and passive forms of visitor use as compared with the No Action Alternative. Visitor use would be concentrated in a system of up to three hubs that would allow the mixture of visitor uses to be managed more effectively, and with lower intensity effects on natural and cultural resources as compared with the No Action Alternative. Resource and other management plans would also be implemented under this alternative that would benefit park resources and visitor experiences. Environmental assessments would be required for construction and operation of individual park projects, and they would be tiered to the general management plan/environmental impact statement. This would benefit the park, and would help assure that these effects were minimized or avoided to the extent possible
>
> The Expanded Use Alternative would have the highest relative potential for land disturbance caused by the construction of new park facilities. This alternative would have the most intense and varied mixture of active and passive forms of visitor use as compared with the No Action Alternative. Resource and other management plans would also be implemented under this alternative that would benefit the park. Environmental assessments would be required for construction and operation of individual park projects, and they would be tiered to the general management plan/environmental impact statement. This would benefit the park, and would help assure that these effects were minimized or avoided to the extent possible.

The context, duration, type, and intensity of effects on each impact topic were determined qualitatively using the above assumptions. The following description explain these impact concepts:

> **Context of the effect**: whether the area affected by the alternative would be local, regional, or national in scale of effect. The context of an effect is defined as the setting in which changes resulting from an action occur. The following definitions of impact context were used in this general management plan/environmental impact statement.
>
> > Local or site- specific effects were defined as those that result in a change in the natural or manmade environment within park boundaries, either at a single location or at several locations. Local effects on the area immediately surrounding the park could also occur

as a result of implementation of a proposed general management plan alternative.

Regional effects were defined as those that could affect the Atlanta Metropolitan Region and all of Georgia, but no other states in the region. This approach was taken to ensure that large- scale effects of a general management plan alternative would be considered and recognized should they extend beyond this area.

National effects were defined as ones that could affect the entire country.

Duration of the effect: the persistence or duration of an effect is an important consideration in understanding the potential consequences of a proposed action. This analysis considered both short- term or long- term effects. Unless an impact- topic- specific definition of these terms is provided, the following were used:

A short- term impact would last only a few days or weeks.

A long- term impact would last several years or more, or would recur periodically over several years.

Type of effect: understanding whether a proposed change could lead to either desirable or undesirable effects is important in choosing among alternatives. This analysis process systematically considered five types of potential effects: adverse, beneficial, direct, indirect, or cumulative. The following definitions are used:

Adverse or Beneficial Effects: Adverse effects include changes that result in some degree of degradation of a resource, experience, or value. Beneficial effects are changes that result in an improvement in a resource, experience, or value, either from the perspective of natural and cultural resources, or from a social and economic perspective.

Direct Effects: Direct effects are changes in the environment caused by an action that occur at the same time and place (CEQ 1978). The general categories of direct effects assessed in this general management plan/environmental impact statement include natural and cultural resources, traditional park character and visitor experience, community character, and local and regional transportation. The following is a summary of the methods used to assess direct effects:

Direct effects on natural and cultural resources could occur from land disturbance activities associated with construction projects in the park, and/or from operation of new park facilities. Direct effects were assessed by qualitatively estimating the combined effects of potential land use changes and prescribed uses in each zone and under each alternative, and comparing each alternative to expected future conditions under the No Action Alternative.

Direct effects on traditional park character and visitor experience were assessed by qualitatively comparing the projected visitor's recreational, personal, sport or educational experience under each alternative to the No Action Alternative. Alternatives with fewer park facilities would be expected to offer the visitor more solitude and isolation, whereas alternatives characterized by a greater number of facilities such as trails and interpretive centers, would offer visitors a more structured experience as compared to the No Action Alternative. The alternatives also vary with regard to the amount of active recreational opportunities available to visitors.

Direct effects on community values were defined as the way visitors interpret appropriate uses of the park, and are therefore related to visitor experience. Effects on

community values were assessed by comparing how the public views the appropriate uses of the park under each alternative in relation to the No Action Alternative.

Direct effects on local and regional transportation were evaluated by qualitatively assessing: (1) potential effects of proposed transportation systems within the park on Atlanta regional transportation conditions; (2) potential effects of projected transportation conditions in the surrounding area on the park; and (3) potential effects of proposed future park transportation systems on the park itself, in relation to the No Action Alternative. Proposed transportation systems within the park were predicted based on the information provided in "*Table 1: Summary of Chattahoochee River National Recreation Area Management Prescriptions*". Future transportation systems in the area were based on projections made by local governments in the four county area, the Georgia Department of Transportation, and the Atlanta Regional Commission. The potential effects of each alternative were qualitatively compared to projected transportation conditions under the No Action Alternative.

Indirect Effects: Indirect effects were defined as "those effects that were caused by an action but is later in time, or farther removed in distance, but still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems." (CEQ 1978). For purposes of this general management plan/environmental impact statement, it was assumed that none of the management alternatives would change growth patterns in the area surrounding the park. As the Atlanta area continues to grow, these patterns will continue in the vicinity of the river, regardless of park actions. Therefore, indirect effects of park management alternatives on the surrounding areas are not addressed further.

Cumulative Effects: Cumulative effects were defined as "… the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non- Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (CEQ 1978)(40 CFR 1508.7). Other past, present, and reasonably foreseeable future actions by other entities include actions proposed or taken by local governments, private industry, or other organizations inside or outside the park boundaries. The National Park Service (National Park Service 2001a) defines the cumulative effect of that project as the combined effects of all actions: "The cumulative impacts analysis may therefore be thought of as the following mathematical equation: X + Y = Z, where is 'X' is the impact of alternative A on a resource [the incremental effect], 'Y' is the impacts of other actions on the same resource, and 'Z' is the cumulative impact." (National Park Service 2001a). The qualitative method for assessing cumulative effects is provided in Step 8.

Intensity of the effect: four classifications of impact intensity are used in this analysis: negligible, minor, moderate, or major. Effect intensity refers to the size or strength of an effect. Impact- topic- specific "thresholds" for each of these classifications are provided in each impact topic methodology section. Threshold values were developed based on federal and state standards, consultation with regulators from applicable agencies, and discussions with subject matter experts. The

following general definitions for levels of intensity were used:

> Negligible – Effects would be considered not detectable and would have no discernible effect on a resource or impact topic. No mitigation would be required.
>
> Minor – Effects would be expected or likely but would not be expected to have an overall effect on a resource or impact topic. Mitigation could be required and success would be likely.
>
> Moderate – Effects would be clearly detectable and could have an appreciable effect on a resource or impact topic. Mitigation would be required and success would be likely.
>
> Major – Impacts would have a substantial, highly noticeable influence on a resource, mitigation would be required and success might not be assured.

Specific intensity thresholds were developed for each impact topic using the above general threshold definitions. Intensity thresholds were assigned to each impact topic, and provided the basis of comparing the effects of each alternative to the No Action Alternative. Mitigation was included in the detailed threshold definitions for each impact topic because these measures would offset potentially adverse effects of construction and operation of park facilities. The net intensity of the impact is therefore relative to both the potential impacts of a proposed action and the implementation of appropriate mitigation measures. These were assumed to include best management practices for construction projects, as well as development and implementation of environmental assessments, resource management plans, and other management plans. Environmental assessments were considered to be forms of mitigation because they involve a thorough alternative site selection and design analysis process, and an assessment of baseline conditions that allow for avoidance, reduction, or minimization of potential adverse effects of proposed park actions on natural and cultural resources. Implementation of resource and other management plans are also considered to be forms of mitigation because they involve plans for management of all aspects of the resources and trails, including erosion control, visitor use/access, and management concerns.

Step 7: Determine whether impairment would occur to resources and values that are considered necessary and appropriate to fulfill the purposes of the Chattahoochee River National Recreation Area. In addition to determining the environmental consequences of the preferred and other alternatives, the 2001 National Park Service Management Policies and Director's Order #12 (NPS 2001a) require analysis of potential effects to determine if actions would impair resources in the park.

The fundamental purpose of the National Park Service, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid or minimize to the greatest degree practicable adverse impacts on park resources and values. However, the laws do give National Park Service management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given National Park Service management discretion to allow certain impacts within parks, that discretion is limited by statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including opportunities that otherwise would be present for the enjoyment of those resources or values. An impact to any park

resource or value may constitute an impairment. However, an impact would more likely constitute an impairment to the extent it affects a resource or value whose conservation is:

> necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
>
> key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
>
> identified as a goal in the park's Master Plan or General Management Plan or other relevant National Park Service planning documents.

Impairment may result from National Park Service activities in managing the park, visitor activities or from activities undertaken by concessionaire, contractors, and others operating in the park. A determination of impairment is made for each impact topic within each "Conclusion" section of this environmental assessment under "Environmental Consequences."

The potential for impairment was estimated by qualitatively applying the three criteria listed above in situations where the intensity of impact was moderate or higher, as required by National Park Service guidelines and policies (National Park Service 2001a). Professional judgment and available information on the baselines conditions and features of the alternatives were relied upon to determine whether resource impairment would be likely.

Step 8: Determine cumulative effects by qualitatively evaluating the effects of the alternatives in conjunction with the past, current, or foreseeable future actions for the Chattahoochee River National Recreation Area and region. Cumulative impacts include the combined effects of actions inside the park, as well as the combined impacts of actions by developments outside the park. The cumulative effect of activities outside the park are beyond the park's control, and the combined effect of any park actions under any of the action alternatives would be negligible in comparison with the effects of actions taken outside the park. Actions outside the park, in contrast, have the potential for having adverse cumulative impacts on resources inside the park. Cumulative effects were assessed by qualitatively estimating how each alternative would potentially impact the resources within the park, and how the growth and conditions in the area surrounding the park would affect resources and visitor experience inside the park boundaries. This was done by qualitatively estimating the additive effect of expected environmental changes associated with each alternative to existing, ongoing, and reasonably foreseeable actions. Appendix G contains additional information on examples of the types of projects that are either ongoing or proposed to be constructed. Because of the large number of projects that are involved, the assessment of cumulative impacts is by necessity a qualitative exercise based on a reasonable prediction of expected activities in the surrounding area, and the features of each alternative.

Step 9: Identify mitigation measures that may be employed to offset potential adverse impacts. Measures are presented for the construction of new park facilities and for the operation of all park activities. Most mitigation measures are either: (1) best management practices that would be applied during construction; or to (2) avoid, reduce or minimize potentially adverse impacts by developing and implementing resource management plans (including a fire management plan, a resource management plan, a collections management plan, a trail management plan,and a commercial services plan), or completing environmental assessments for construction projects. These mitigation measures are built into the thresholds, as described previously, and were used as a means of estimating the net effect of each alternative.

HOW THE IMPACT ASSESSMENT SECTION IS ORGANIZED

Each impact assessment section provides a detailed assessment of the effects of each alternative for each impact topic, and the basis on which each threshold was selected. For each alternative, a description is provided of the impacts of

construction and operation on natural resources, cultural resources, visitor experience, and park facilities in relation to the No Action Alternative . Impacts associated with park construction were defined according to estimated changes in the environment resulting from biological, physical, and chemical disturbances caused by construction of roads, buildings, trails, parking lots, or other structures, and from an estimate of the potential effects on the type and quality of the visitor experience. Impacts of park operations were defined as effects of visitor use (habitat disturbance and use, increased traffic), effects on the type and quality of visitor experience, and the effects of biological, physical or chemical changes resulting from facility operations (i.e., storm water runoff from impervious surfaces, increased air emissions, and similar factors).

The sections that follow expand on the described approach. Each impact section is organized as follows.

Regulations and Policy: The relevant regulations and policies that apply to each impact topic are summarized in the Servicewide Mandates and Policies Section of this document.

Methodology: Qualitative methods were used to assess impacts of each alternative on each impact topic. A description is presented at the beginning of each impact topic analysis.

Analysis: This section summarizes the results of the impact analysis process and identifies reasons for the anticipated effects.

Cumulative Impacts: This section discloses the anticipated cumulative effects of each alternative on each impact topic.

Conclusions: This section describes the final results of the analysis. Conclusions regarding direct and cumulative impacts of each alternative on each impact topic are provided, including an estimate of the potential for an alternative to cause impairment. Conclusions address impact intensity and duration and whether the effects would be adverse or beneficial.

ENVIRONMENTAL IMPACTS OF THE CONTINUE CURRENT MANAGEMENT OR NO ACTION ALTERNATIVE

IMPACTS OF NO ACTION ALTERNATIVE ON NATURAL RESOURCES

This section assesses the effects of the No Action Alternative on natural resources of the park. Assessments of the effects of the No Action Alternative on air quality; water resources (surface water hydrology, water quality, aquatic resources, and water supply); wetlands and floodplains; rare, threatened and endangered species; terrestrial ecological resources (forests and wildlife); and prime and unique farmland are included.

IMPACT OF NO ACTION ALTERNATIVE ON AIR QUALITY

Regulations and Policy

The regulations and policies that guide National Park Service actions with respect to air quality are presented in the "Servicewide Mandates and Policies" section of this document.

Methodology

The air quality issue identified during scoping was the potential effect of air emissions from increasing amounts of traffic in the surrounding area on natural resources inside the park. To meet the requirements of the National Environmental Policy Act, the potential effects of air emissions from all activities in the park during construction and operation were also assessed. The methodology for assessing the impacts of the alternatives was to qualitatively estimate projected emissions resulting from construction and operation activities in the park on the surrounding area, and compare the estimated emissions to the No Action Alternative. For this analysis, it was assumed that emissions resulting from park activities under the No Action Alternative were extremely small in comparison with emissions originating outside the park in the surrounding Atlanta Metropolitan Area.

Impairment of air quality resources would occur if there was a major adverse impact to air resources

or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other National Park Service planning documents.

The impact thresholds used for estimating the intensity of different types of impacts on air quality are presented in Table 20.

Table 20. Impact Thresholds for Air Quality

Negligible adverse: Effects of air quality from emission sources in the area surrounding the park are not detectable and would have no discernable effect on natural resources or visitor experience in the park.
Minor adverse: Effects of air quality from sources in the area surrounding the park are slightly detectable and are not expected to have an overall effect on natural resources or visitor experience in the park.
Moderate adverse: Effects of air quality from sources in the area surrounding the park are clearly detectable and could have an appreciable effect on air quality, natural resources or visitor experience inside the park.
Major adverse: Effects of air quality from sources in the area surrounding the park are substantial and could have a highly noticeable effect on natural resources or visitor experience inside the park.
Negligible adverse: Effects of air quality from emission sources within the park are not detectable and would have no discernable effect on air quality in the area.
Minor adverse: Effects of air quality from sources within the park are slightly detectable and are not expected to have an overall effect on air quality in the area.
Moderate adverse: Effects of air quality from sources within the park are clearly detectable and could have an appreciable effect on air quality in the area.
Major adverse: Effects of air quality from sources within the park are substantial and could have a highly noticeable effect on air quality in the area.

Analysis

Under the No Action Alternative, the limited number of new park facilities would produce a negligible increase in fugitive dust from construction sites and from vehicle emissions during operation. Air emissions resulting from these actions would result in negligible, short- term adverse direct impacts on air quality due to the small amounts of emissions produced.

Cumulative Impacts

The No Action Alternative would result in negligible, adverse long- term cumulative effects on air quality because of the small volumes of air emissions that would occur from the few facilities that would be constructed and operated. Park operations would result in negligible effects on plants and animals in the park.

The population in the Atlanta area is projected to continue to expand, and as this occurs, traffic volumes and associated air emissions are likely to increase in and around the park. The volume of air emissions and effects of these increases would greatly exceed any increased emissions associated with the No Action Alternative, or any of the three action alternatives. The Atlanta area is currently not meeting air quality standards for ozone, and this situation may not change for the foreseeable future. Emissions in the more urbanized southern areas of the park would be expected have a greater potential on park resources. However, as northern areas surrounding the park grow, these areas would also experience increased vehicle emissions. As population and traffic congestion around the park grows in the future, degraded air quality could affect park resources in as yet unidentified ways. The No Action Alternative was therefore estimated to result in moderate, long- term adverse effects on air quality and natural resources.

Implementation of this alternative would not result in any irretrievable or irreversible commitment of air quality resources with this alternative.

Conclusions

The No Action Alternative would result in negligible, adverse long- term direct and cumulative effects on air quality because of the small volumes of air emissions that would occur from the few facilities that would be constructed and operated.

As the population and traffic congestion around the park increases in the future, degraded air quality could affect park resources in as yet unidentified ways. This would probably constitute a moderate adverse, long- term cumulative effect on air quality that would occur under all of the alternatives.

There would be no impairment of air quality as a result of park actions under this alternative.

IMPACTS OF NO ACTION ALTERNATIVE ON WATER RESOURCES

Regulations and Policy

The regulations and policies that guide National Park Service actions with respect to water resources are presented in the "Servicewide Mandates and Policies" section of this document.

Methodology

Water resource issues identified during scoping included: (1) the potential effects of construction and operation of NPS projects on surface water hydrology, water quality and aquatic ecology of streams inside the park, including the Chattahoochee River; and (2) potential effects of development in the area surrounding the park on surface water hydrology, water quality and aquatic life inside the park, including the Chattahoochee River.

To address these issues, an assessment of the effects of projected park actions and development in the area surrounding the park on water resources was made using qualitative estimates of the expected levels of construction inside the park, and expected levels of growth outside the park. Qualitative estimates of these effects were made, and the effects were compared to the No Action Alternative. The major assumptions used in the analysis of construction- related effects were that: (1) potential effects on water resources from construction sites are primarily related to increased runoff of storm water from disturbed land at construction sites; and (2) as the amount of land disturbing activity increases under a given alternative, the potential for increased runoff and associated pollutants from construction sites increases. The major assumption for assessing operation- related effects on water resources was that the volume of storm water runoff and associated pollutants from impervious surfaces from park facilities during operation would increase as the number of new park facilities being operated increases.

In addition to these assumptions, it was also assumed that a resource management plan and an integrated trail system plan would not be prepared and implemented under the No Action Alternative. This implies that plant and animal resources associated with terrestrial and aquatic habitats would not be inventoried beyond what is currently known, and that habitat restoration activities would be minimal. The trail system would not be managed as effectively as it would be under an implemented plan.

Despite these differences, best management practices for construction would still be implemented on any construction project proposed by the park under the No Action Alternative. In addition, potentially adverse effects of construction on water resources would be minimized by implementation of site- specific environmental assessments tiered to the general management plan/environmental impact statement. Effects of individual projects on water resources would be effectively assessed, and mitigation measures employed.

Impairment of water resources would occur if there was a significant adverse impact to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the

park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other NPS planning documents.

The impact thresholds used for estimating the intensity of different types of effects on water resources are presented in Table 21.

Table 21. Impact Thresholds for Surface Water Quality

Negligible adverse: Effects of runoff on surface water quality of the streams inside the park related to construction, operation, or visitor use are not detectable.
Minor adverse: Effects on surface water quality of the streams inside the park related to construction, operation, or visitor use are slightly detectable with no overall change. Structural and non- structural mitigation of potentially adverse effects is implemented via best management practices and resource and other management plans, and results in noticeable beneficial effects on water quality.
Moderate adverse: Effects of runoff on streams inside the park related to construction, operation, or visitor use are clearly detectable and are expected to have an appreciable effect on surface water quality. Structural and non- structural mitigation of potentially adverse effects is implemented via best management practices and resource and other management plans, and results in noticeable beneficial effects on water quality.
Major adverse: Effects of runoff on streams inside the park related to construction, operation, or visitor use are substantial and highly noticeable, and are expected to have a permanent effect on surface water quality. Mitigation of potentially adverse effects is implemented, but with minimal beneficial results.
Negligible adverse: effects of nonpoint surface runoff from development in the surrounding area on water quality of streams in the park are not detectable.
Minor adverse: effects of nonpoint surface runoff from the development in the surrounding area on water quality of streams in the park are slightly detectable with no overall change
Moderate adverse: effects of nonpoint surface runoff from the development in the surrounding area on water quality of streams in the park are clearly detectable and are expected to have an appreciable effect on surface water quality.
Major adverse: effects of nonpoint surface runoff from the development in the surrounding area on water quality of streams in the park are substantial and highly noticeable, and are expected to have a permanent effect on surface water quality.
Negligible beneficial: Implementation of management plans and best management practices improves water quality in a very small area. Overall effect is detectable, but very small.
Minor beneficial: Implementation of management plans and best management practices improves water quality in a small area inside the park. Overall effect is clearly detectable.
Moderate beneficial: Implementation of management plans and best management practices improves water quality in several small areas inside the park. Overall effect is clearly detectable.
Major beneficial: Implementation of management plans and best management practices improves water quality in several small areas and/or several large areas inside the park. Overall effect is clearly detectable.

Analysis

Implementation of the No Action Alternative would result in varying degrees of land clearing for minimal construction activities including; limited roads, parking lots, trails and buildings. These activities would produce variable amounts of surface water runoff from disturbed land on construction sites. Under the No Action Alternative, some construction- associated runoff would be produced since a certain number of new facilities would be constructed and operated. If left uncontrolled, this runoff could cause an increase in current velocities, flow, and sedimentation in receiving streams within the park. These effects in turn would cause elimination of suitable habitat for benthic invertebrate and fish. However, under the No Action Alternative best management practices would be employed in all construction areas to

control the amount and quality of runoff. These would include erosion control measures such as type C silt fencing on slopes greater than 3%, mulching, sedimentation ponds, and use of cocoa fiber and seeding of native grasses. Few new facilities would be constructed under the No Action Alternative. The overall direct effect of construction activities under the No Action Alternative on hydrology, water quality, and aquatic ecology was therefore estimated to be negligible, adverse, and long- term.

During operation of the park under the No Action Alternative, the park would be managed according to current policies, but new resource and other management plans would not be implemented. Trails and other park facilities would not be effectively maintained as possible under the No Action Alternative, and there would be a higher potential for elevated levels of surface runoff that could reach streams within the park. Under the No Action Alternative, visitors would also continue to use the park, but visitors would be allowed access throughout the park at a wide variety of existing locations, potentially leading to an increase in trail overuse and soil erosion. Trail overuse is already a problem in some areas of the park and this would cause increased current velocities and flow in the receiving streams, as well as increased erosion of the stream bed and redeposition of sediments in stream channels. All of these changes would contribute to further degradation of habitats for fish and benthic invertebrates. However, best management practices would also be built into the design of all park facilities, which would minimize the potential for adverse effects on water resources. This alternative was therefore estimated to result in overall moderate adverse, long- term direct effects on hydrology, water quality, and aquatic ecology.

Cumulative Impacts on Water Resources

The limited amount of construction and maintenance activities inside the park on water resources would result in negligible, long- term adverse effects under the No Action Alternative. This would constitute a negligible, adverse, long-term cumulative effect on surface water hydrology, water quality and aquatic resources.

During operation, visitor use would have a moderate adverse cumulative effect on water resources as a result of trail overuse and because an integrated trails system plan or other management plans would not be developed and implemented. These plans include measures to minimize soil erosion along trails and other areas of the park. The net result would be increased soil erosion and habitat degradation over the long term.

The cumulative adverse effects of runoff related to stormwater runoff from development outside the park on water resources inside the park would continue to increase under the No Action Alternative. As the area surrounding the park becomes more developed, this problem would be expected to increase. Stormwater in the more urbanized southern areas of the park would be expected to have a greater potential effect on park resources. However, as northern areas surrounding the park grow, these areas will also experience increased stormwater runoff. This would constitute a major, adverse, long- term cumulative effect caused by factors largely outside the park's control. This would occur under all of the alternatives.

The growth in the area surrounding the park has already had a major adverse effect on fishing in the Chattahoochee River. This was identified as a major issue. However, this issue cannot be solved by the park officials effectively because it is largely outside of the parks' control. Fish diversity and populations in the river vary depending on the location along the corridor. The northern section below Lake Lanier is characterized by a relatively healthy fish community and is much less affected by nonpoint stormwater runoff as compared with the lower portion of the park. However, during intense storms, even the northernmost sections of the river, except the area immediately below Buford Dam, are affected by runoff and sedimentation loading from the surrounding area. As the northern border areas of the park corridor continue to grow, these effects on fish populations are expected to increase. Under the No Action Alternative, there would be less chance for improving this situation because there would be less coordination and planning between the National Park Service and local governments to address stormwater runoff concerns. The No Action Alternative would therefore have little effect in controlling these types of cumulative effects on fish in the river.

There would be no irreversible or irretrievable commitment of the water resources of the Chattahoochee River and its tributaries under this alternative related to National Park Service actions.

Conclusions

Construction and maintenance of park facilities under this alternative would have negligible, adverse, direct short- and long- term effects on surface water hydrology, water quality and aquatic resources inside the park. During operation, the effects of increasing visitor use would have moderate, adverse, long- term direct and cumulative effects on water resources related to increased erosion on trails and other areas. Water resources in the park, including the Chattahoochee River, would continue to be primarily influenced by urban development in the surrounding urban watershed, however. Lack of implementation of resource and other management plans would have moderate, adverse, long- term direct effects on water resources in the park, since these plans would emphasize measures to control erosion and minimize disturbance of soil.

Stormwater runoff from development activities outside the park could result in major, long- term adverse cumulative effects on water resources in the park. This would be the same under all of the alternatives.

There would be no major, adverse impacts to water resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of water resources or values in the park.

IMPACTS OF THE NO ACTION ALTERNATIVE ON WETLANDS AND FLOODPLAINS

Regulations and Policy

The regulations and policies that guide National Park Service actions with respect to wetlands and floodplains are presented in the "Servicewide Mandates and Policies" section of this document.

Methodology

The issue identified during public meetings and workshops was the potential effects of park construction projects and overall plan implementation on wetland and floodplains. Potential adverse effects of the alternatives on floodplains and wetlands were assessed based on a qualitative analysis of the potential for locating projects in wetlands or floodplains, the relative extent of the effects, the effectiveness of mitigation measures employed, and the potential for addition of new wetland or floodplain areas. The impact thresholds developed for the assessment of effects on wetlands and floodplains are presented in Table 22.

Table 22. Impact Thresholds for Wetlands and Floodplains

Negligible adverse: Impacts on floodplains and wetlands due to filling activities are perceptible and can be measured, and are highly localized and confined to a single limited area. Mitigation would result in offsetting acreage, functions and values of affected wetlands.
Minor adverse: Effects on floodplains and wetlands due to filling activities are measurable and perceptible, and occur at more than one location. Overall effect is still within a very small area. Mitigation would result in offsetting acreage, functions and values of affected wetlands.
Moderate adverse: Effects on floodplains and wetlands due to filling activities at several small sites or a larger area at a single location. Mitigation would result in offsetting acreage, functions and values of affected wetlands.

Table 22. Impact Thresholds for Wetlands and Floodplains

Major adverse: Effects on wetlands due to filling activities at numerous locations of larger size, or effects on a single large wetland. Mitigation would result in offsetting acreage, functions and values of affected wetlands.
Negligible beneficial: Implementation of management plans and best management practices, and addition of new park areas protects measurable and perceptible areas of floodplains and wetlands at only one location. Overall effect is still within a very small area.
Minor beneficial: Implementation of management plans and best management practices, and addition of new park areas protects measurable and perceptible areas of floodplains and wetlands at more than one location. Overall effect is still within a very small area.
Moderate beneficial: Implementation of management plans and best management practices, and addition of new park areas protects several small wetlands or a larger wetland at a single location.
Major beneficial: Implementation of management plans and best management practices, and addition of new park areas protects floodplains and wetlands at numerous locations of larger size, or a single large wetland.

The major assumptions used in this analysis were: (1) limited but variable construction would be allowable in the park under any of the alternatives; (2) visitor use and potential effects on wetlands and trails would vary between alternatives based on the amount of facilities made available; and (3) that the highly urbanized areas surrounding the park would have a far greater potential effect on wetlands and floodplains in the park than any activities proposed under any of the action alternatives.

In addition to these major assumptions, it was also assumed that resource and other management plans would not be prepared and implemented under the No Action Alternative. This implies that wetland and floodplain resources would not be inventoried or managed beyond what is currently being done, and that habitat restoration activities would be minimal. Trails would also not be maintained to the extent possible, and the trail system would not be managed as effectively as it would be under a management plan.

Impairment of wetland and floodplain resources would occur if there was a significant adverse impact to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other NPS planning documents.

Analysis

Limited construction (such as boardwalks, or foot bridges, boat ramps, parking lots, limited roads, or small buildings) and maintenance activities would occur under the No Action Alternative. Construction activities under the No Action Alternative were estimated to have minor, adverse, long- term, direct effects on wetlands and floodplains in the park, since some construction would occur. Existing trails and facilities currently located in floodplains and wetlands would not be altered. New trail construction would still be addressed and assessed in the form of individual environmental assessments, and avoidance, minimization and compensation would be demonstrated prior to construction activity.

During operation of the park under the No Action Alternative, existing levels of protection of wetlands and floodplains would continue, but no resource management plan or integrated trail system plan would be implemented. Where erosion occurs along informal trails or overused areas, these conditions would therefore likely continue to occur, and could affect wetlands and/or floodplains in the park. This alternative was therefore expected to have minor, adverse, long-term, direct effects on wetlands or floodplains related to operation of the park. Also, no new park areas would be added that could be used to protect several small wetlands and floodplains or a larger wetland/floodplain at a single location. Overall, operation under this alternative was therefore estimated to have negligible, long- term adverse direct effects on wetlands or floodplains.

Cumulative Impacts on Wetlands and Floodplains

Minor, adverse, long- term, cumulative effects on wetlands and floodplains inside the park would result from construction and operation of park facilities throughout the park under the No Action Alternative since this alternative would involve only limited construction and maintenance. Floodplains and wetlands throughout the park would continue to be protected from direct disturbance from park construction projects through required environmental assessments required by the National Environmental Policy Act and NPS regulations. Application of best management practices would help reduce risk to floodplain and wetland resources from stormwater runoff, erosion, filling activities, or sedimentation from sources within the park.

Wetlands and floodplains located within the park would continue to be affected by sediments and water transported via runoff during high storm water discharges originating from developed areas outside the park. Stormwater originating in the more urbanized southern areas of the park would be expected to have a greater potential on park resources. However, as northern areas surrounding the park grow, these areas will also experience increased volumes of stormwater runoff. This would constitute a major, adverse, long- term cumulative effect. The effects of stormwater runoff cannot be directly controlled by park officials and resolution of these concerns would ultimately depend on the effectiveness of watershed management planning efforts by the surrounding communities and implementation of institutional controls such as wet ponds, artificial wetlands, and non- structural best management practices by local agencies. This effect would be the same for all of the alternatives.

There would be no irreversible or irretrievable commitment of wetlands and floodplain resources under this alternative related to NPS actions.

Conclusions

Construction and operation of park facilities under the No Action Alternative would result in **minor, adverse, long- term direct and cumulative effects on wetlands and floodplains**, since the amount of facility construction and operation would be limited. Since no new park areas would be added under this alternative, it would have **a negligible, beneficial, direct effect**. However, the park would continue to experience **major, adverse, long- term direct and cumulative** effects on wetlands and floodplains resulting from erosion and sedimentation associated with stormwater runoff from construction activities and developed areas outside the park. These effects would continue to occur because the park is a narrow, corridor, and is located in the center of a rapidly developing urban area. The effects of stormwater runoff cannot be directly controlled by park officials and resolution of these concerns would ultimately depend on the effectiveness of watershed management planning efforts by the surrounding communities and implementation of institutional controls such as wet ponds, artificial wetlands, and non- structural best management practices by local agencies.

There would be no impairment of resources or values associated with wetlands and floodplains as a result of park actions.

IMPACTS OF THE NO ACTION ALTERNATIVE ON RARE, THREATENED AND ENDANGERED SPECIES

Regulations and Policy

The regulations and policies that guide National Park Service actions with respect to rare, threatened and endangered species are presented in the "Servicewide Mandates and Policies" section of this document.

Methodology

The issue identified during scoping for this impact topic was the potential effect of construction and operation of new facilities on state- and federally-listed species in the park. The direct effects of these resources were assessed in a qualitative manner by comparing the anticipated level of land disturbing activities due to park projects and activities during construction and operation of the action alternatives to the No Action Alternative, and to the expected types and intensities of visitor use. Potential beneficial impacts were estimated by

assessing the relative potential for addition of new areas to the park that may provide increased habitat for these species, and by whether resource management plans would be implemented or not. Cumulative effects were addressed by qualitatively assessing the combined relative effect of construction of facilities inside the park on protected species, and by relating the potential effects of development in the surrounding area on these resources. Coordination was also conducted with the Georgia Department of Natural Resources and the US Fish and Wildlife Service to establish what was known regarding the occurrence of protected species in the park (see "Affected Environment" section for lists of these species).

The impact thresholds for rare, threatened and endangered species employed are presented in Table 23.

Table 23. Impact Thresholds for Rare, Threatened and Endangered Species

Negligible adverse: Implementation of management programs would have negligible adverse effect on state- or federally- listed species of plants and animals or designated critical habitat.
Minor adverse: Adverse impacts on state- or federally-listed species of plants and animals or designated critical habitat would probably not occur or be meaningfully measured or detected. The resource may be affected, but is unlikely to be affected. Mitigation in the form of resource management plans, other management plans, or environmental assessments would result in avoidance of sites harboring protected species, or would result in minimization or avoidance of effects of operation of new park facilities.
Moderate adverse: Implementation of management programs would have adverse impacts on state- or federally- listed species of plants and animals or designated critical habitat and would result in a local population decline due to reduced survivorship and/or a shift in distribution of the species. The resource may be affected, and is likely to be adversely affected. Mitigation in the form of resource management plans and other management plans would not be completed and would not result in minimization or avoidance of effects of construction and operation of new park facilities. Environmental assessments on individual projects would be completed, however, which would minimize or avoid construction – related effects on protected species. Moderate adverse effects on protected species would occur primarily from operation- related actions in the park.
Major adverse: Implementation of management programs would have adverse effects that could jeopardize the continued existence of a state- or federally- listed species of plant or animal or adversely modify a designated critical habitat so that direct causality or mortality would occur. The continued existence of a protected species would likely be jeopardized or a critical habitat would be adversely modified. Mitigation in the form of resource management plans and other management plans would not be completed and would not result in minimization or avoidance of effects of construction and operation of new park facilities. Environmental assessments on individual projects would be completed, however, which would minimize or avoid construction – related effects on protected species. Moderate adverse effects on protected species would occur primarily from operation- related actions in the park.
Minor beneficial: Addition of new park areas protects measurable and perceptible areas of protected species habitat at more than one location. Overall effect is still within a very small area.
Moderate beneficial: Addition of new park areas protects several small areas of protected species habitat or a larger section of habitat at a single location.
Major beneficial: Addition of new park areas may provide protected species habitat at numerous locations of larger size, or a single large area, or large areas may be restored.

The assumptions for this analysis were that the potential for adverse effects is related to the amount of land that could be potentially disturbed under each alternative during construction and operation, and to the level and types of visitor use. It was assumed that the amount of allowable construction inside the park would be relatively small for all of the alternatives, but would vary between alternatives. It was also assumed that a resource management plan and other plans would not be prepared and implemented under the No Action Alternative. This implies that rare, threatened and endangered species would not be

inventoried beyond what is currently known. Trails would also not be maintained to the extent possible, and the trail system would not be managed in the same way as it would be under an implemented plan. Finally, it was assumed that National Environmental Policy Act environmental assessments would be prepared for site- specific projects, and that this would result in effective avoidance and minimization of potential adverse effects on protected species. However, during operation, there would still be a potential for adverse effects to occur because resource and other management plans would not be developed and implemented.

Impairment of rare, threatened and endangered species would occur if there was a significant adverse effect to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other NPS planning documents.

Analysis

A limited amount of construction would occur under the No Action Alternative, and as a result, there would be a potential to disturb protected species habitat in the park. Construction could also result in fragmentation of protected species habitat, but because the number of projects would be few this direct adverse effect is estimated to be minor. However, under the No Action Alternative, any construction project would require a National Environmental Policy Act environmental assessment that would include rare, threatened, and endangered species surveys, consideration of alternative sites and designs, and assessments of direct and cumulative effects. Therefore, through this process, effects would be avoided or minimized to the greatest extent possible. The overall direct effects of this alternative on protected species were nevertheless estimated to be moderate, adverse and long- term since construction of new facilities would occur in the absence of any new resource or other management plans. Habitat degradation over time due to potential visitor over use and trail damage could have a moderate, long- term adverse impact on protected species.

The location of numerous protected species of plants and animals in the park is only partially known and documented by the Georgia Department of Natural Resources/Wildlife Resources Division surveys, or other park surveys. Comprehensive park- wide surveys have not yet been conducted. Until these surveys are completed, the park would rely on site- specific surveys for individual construction project sites to assess the potential for effects on protected species. These surveys would not be conducted under the No Action Alternative on a parkwide basis, but would be required for site- specific environmental assessments.

During operation of the park, rare, threatened and endangered species would continue to be protected. However, since no new areas would be added to the park under the No Action Alternative, additional areas that might harbor protected species of plant and animals would not be added. In addition, a resource management plan and other management plans would not be prepared or implemented under this alternative, which could result in some degree of long- term habitat degradation and/or increased invasion of exotic plants in the park. This would constitute a moderate, long- term adverse effect.

There would be no irretrievable or irreversible commitment of resources as a result of implementation of this alternative.

Cumulative Impacts on Rare, Threatened and Endangered Species

The cumulative effects of park construction and operation activities under the No Action Alternative on rare, threatened and endangered species within the park were estimated to be moderate, adverse, and long- term, since resource and other management plans would not be implemented. However, environmental assessments would be completed for each proposed project, which would allow for careful site selection and avoidance of impacts on protected species. Because resource and other management plans would not be implemented, there would be a greater potential for exotic species

to invade in increasing numbers, and for protected species habitats to be further degraded by increased visitor use and less effective management. The park's rare, threatened and endangered species would continue to benefit from the current level of protection the park affords, nevertheless. Effects of habitat disturbance on protected species from informal trails and visitor use would be expected to be greater in the more urbanized southern portion of the park as compared with the less developed northern section of the park. However, as the northern section develops, these effects would be expected to be similar to the southern areas.

There would be no irreversible commitment of rare, threatened and endangered species or related habitat resources with this alternative.

Conclusions

Implementation of the No Action Alternative would result in moderate, long- term adverse direct and cumulative effects on rare, threatened and endangered species, since some new facilities would be constructed and operated, resource and other management plans would most likely not be developed or implemented, and habitat degradation through overuse and invasion of exotic species is more likely to occur. Efforts to document and protect rare, threatened and endangered species populations currently present in the park would continue to be completed under site- specific environmental assessments, however, which would help avoid or minimize potentially adverse effects on these species on a project by project basis.

There would be no major, adverse impacts to protected species resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of the park's resources or values associated with protected species.

IMPACTS OF THE NO ACTION ALTERNATIVE ON TERRESTRIAL ECOLOGICAL RESOURCES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to terrestrial ecological resources are presented in the "Servicewide Mandates and Policies" section of this document.

Methodology

The issues regarding terrestrial ecological resources identified during public meetings and workshops included habitat fragmentation, and direct effects of land disturbance on forests and wildlife as a result of construction and operation of park facilities. Fragmentation of terrestrial habitats is an issue because the park is a long and narrow, a 48- mile urban/suburban corridor Habitat fragmentation is the breaking up of a continuous habitat, an ecosystem, or a land use type into smaller, isolated fragments. This can occur when a road, utility easement, or some sort of land use change disrupts the continuity of the ecosystem. Habitat fragmentation has been determined to be one of the leading causes in the loss of biodiversity in an ecosystem, second only to the outright loss of the habitat. The smaller the remaining patches of habitat, or the smaller the populations of wildlife, the greater the chance of local extinction and loss of biodiversity (Primack 1993).

Three types of fragmentation effects have been distinguished: patch size effects, edge effects, and isolation effects (Johnson 2001). Patch size effects are those that result from the reduction of habitat size to a point that species can no longer maintain a viable population. This often occurs with wide ranging species such as the Florida panther, but it can occur on a smaller scale with species with specific habitat requirements for breeding and reproduction. The great crested flycatcher, a common inhabitant of temperate forests, requires a territory with a radius of at least 60 meters in diameter to breed (Robbins, et al 1989).

The edges of these patches are especially susceptible to invasions of nuisance species. The destruction of the adjacent habitat enables opportunistic species to become established. These

opportunistic species may include weedy, invasive plants or predators such as raccoons, feral dogs and cats, or brown- headed cowbirds.

Isolation from similar habitats inhibits the dispersal opportunities of species and their eventual decline as a population. The loss of inter- population connectivity among isolated remnants reduces population viability.

The terrestrial habitats around the park are already highly fragmented, with limited greenspace and associated terrestrial ecological resources. The park could therefore become increasingly important as a refuge for some resident plants and animals as well as migratory species of animals.

The effects of the alternatives with respect to fragmentation were assessed by qualitatively assessing the potential of each alternative to create increased fragmentation of terrestrial habitats in the park, in relation to the expected levels of fragmentation under the No Action Alternative. This is addressed under Cumulative Impacts sections.

The assessment of the direct effects of the alternatives on terrestrial ecological resources as a result of land disturbance during construction of park facilities was completed by relating the expected degree of construction activity and activities to the types of expected changes in habitat extent and quality in the park and whether mitigation would be required and/or effective. Potential beneficial effects were estimated by assessing the potential for addition of new areas to the park that would provide a means of conserving additional areas of forest and wildlife habitat. Potential effects of operation of park facilities were addressed by qualitatively assessing potential effects of visitor use and other forms of use on terrestrial plant and animal communities.

The threshold criteria for terrestrial ecological resources, deciduous forest, and other native wildlife are presented in Tables 24 & 25.

Table 24. Impact Thresholds for Terrestrial Ecological Resources, Deciduous Forests

Negligible adverse: No native forests would be affected, or some individual trees or other native vegetation would be affected, but there would no effect on species composition. Effects would on a small scale.
Minor adverse: Would affect some individual native trees or other vegetation but overall, would affect only a minor part of the total population. Mitigation to offset impacts would be required and would be effective.
Moderate adverse: Would affect some individual native trees and other vegetation and would also affect a sizeable segment of the specie's population and over a relatively large area. Mitigation to offset adverse effects could be extensive but would probably be successful.
Major adverse: Effects would be considerable on deciduous forest and would affect a relatively large area. Mitigation measures to offset adverse impacts would be required and would be extensive. Success of mitigation would not be guaranteed and would only be deemed successful after a long period of monitoring.
Minor beneficial: Addition of new park areas protects measurable and perceptible areas of deciduous forest at more than one location. Overall effect is still within a very small area. Some small areas can be restored.
Moderate beneficial: Addition of new park areas protects several small areas of deciduous forest or a larger section of terrestrial habitat at a single location. Numerous areas may be restored.
Major beneficial: Addition of new park areas protects deciduous forest habitat at numerous locations of larger size, or a single large area, or large areas may be restored.

Table 25. Impact Thresholds for Terrestrial Ecological Resources, Other Native Wildlife

Negligible adverse: No native wildlife would be affected, or some individual species would be affected, but there would no effect on species composition. Effects would be on a small scale.
Minor adverse: Would affect some individual wildlife but overall would affect only a minor part of the total population. Mitigation to offset impacts would be required and would be effective.

Table 25. Impact Thresholds for Terrestrial Ecological Resources, Other Native Wildlife

Moderate adverse: Would affect some individual wildlife and would also affect a sizeable segment of the specie's population and over a relatively large area. Mitigation to offset adverse effects could be extensive but would probably be successful.
Major adverse: Effects would be considerable on native wildlife and would affect a relatively large area. Mitigation measures to offset adverse impacts would be required and would be extensive. Success of mitigation would not be guaranteed and would only be deemed successful after a long period of monitoring.
Minor beneficial: Addition of new park areas would have a beneficial effect on some individual wildlife but overall would only provide improved conditions for a minor part of the total population.
Moderate beneficial: Addition of new park areas would have a beneficial effect on some individual wildlife species and would also benefit a sizeable segment of the specie's population and over a relatively large area.
Major beneficial: Addition of new park areas would have a considerable positive effect on native wildlife over a relatively large area.

The primary assumption for this assessment was that potential effects on terrestrial resources within the park are related to the amount of land disturbance caused by proposed projects during construction and operation. It was also assumed that the amount of allowable construction inside the park would be relatively small for all of the alternatives, including the No Action Alternative.

In addition to these major assumptions, it was also assumed that a resource management plan other management plans would not be prepared and implemented under the No Action Alternative. This implies that terrestrial ecological resources would not be inventoried or managed beyond what is currently being done, except as part of environmental assessments on specific projcts, and that habitat restoration activities would be minimal. Trails would also not be maintained to the extent possible under the action alternatives, which would involve implementation of resource management plans.

Impairment of terrestrial ecological resources would occur if there was a significant adverse impact to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other NPS planning documents.

Analysis

Limited construction and maintenance activities occurring under the No Action Alternative would result in minor, adverse long- term effects on upland terrestrial forests, riparian areas and associated wildlife, since some construction would occur in limited areas. Construction activities under the No Action Alternative would result in some disturbance of terrestrial ecological habitats, but this would be minimized since an environmental assessment would still have to be completed, and sensitive upland forested areas would have to be avoided to the extent possible. The overall direct effect of construction on terrestrial habitats and wildlife under the No Action Alternative was therefore estimated to be minor, adverse and long- term. During park operation under the No Action Alternative, the continuation of current management practices such as minimizing clearing of trees and controlling the presence and distribution of invasive species would maintain the forest in a condition much like that which currently exists. Trails would continue to be maintained, and erosion would continue to be controlled in problem areas in the same way that they are managed presently. Under the No Action Alternative, however, these problems could worsen somewhat over time, however, since no trail or resource management plans would be developed or implemented. Also, no new areas would be added to the park, and there would be a lost opportunity to provide additional terrestrial habitat in the future. The overall direct effect of this alternative during operation was therefore estimated to be a moderate, adverse, and long- term.

Cumulative Impacts on Terrestrial Ecological Resources

The cumulative effects of the construction and maintenance activities under the No Action Alternative on terrestrial ecological resources would be minor, adverse and long- term since this alternative would involve only limited construction and maintenance in the park, but natural resource and other management plans would not be implemented, and habitat degradation of forested areas could result. The northern portion of the park is currently less developed and less fragmented than the southern portion of the park. However, because the area is rapidly developing, the potential for increased fragmentation of the northern section of the park is possible under the No Action Alternative because of increased numbers of informal trails and increased levels of visitor use. Some parcels, however, are already too small to provide an effective refuge for some species because larger parcels are required to sustain a population. Under No Action, the potential for further fragmentation nevertheless exists. This specific effect was estimated to be minor, adverse and long- term. The terrestrial communities would continue to benefit from the existing levels of protection provided in the park, however.

During operation, cumulative effects from actions inside the park were estimated to have a moderate, adverse, long- term effect on terrestrial resources. Natural resource and other management plans would not be developed and implemented, and habitat degradation of forested areas throughout the park could result. Fragmentation of terrestrial habitat could increase through trail overuse. Simultaneously, areas outside the park would continue to be developed which may make the park corridor more attractive to wildlife. Park management practices associated with the No Action Alternative would have little to no effect on regional, development- related decreases in terrestrial ecological resources, however. Also, the park would not be expanded, which would not provide additional opportunities to preserve new areas of terrestrial habitat.

There would be no irretrievable or irreversible commitment of resources as a result of implementation of this alternative. Changes to terrestrial ecological resources could be reversed with sufficient time using such measures as site protection, discontinuation of maintenance activities, or restoration and revegetation, but these would be minimal under the No Action Alternative.

Conclusions

Overall, this alternative would have minor long-term direct and cumulative effects on terrestrial ecological resources as a result of the limited amount of facility construction that would occur. During operation, this alternative would result in moderate, long- term, adverse effects on terrestrial ecological resources because of less effective management of park uses, the lack of resource and other management plans, and because the park would not be expanded. At selected sites along heavily used or improperly designed or maintained trails where accelerated erosion is occurring, problems would continue and probably worsen.

There would be no major, adverse impacts to terrestrial ecological resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of terrestrial ecological resources or values in the park.

Impact of the No Action Alternative on Prime and Unique Farmland

Regulations and Policy

The regulations and policies that guide NPS actions with respect to prime and unique farmlands are summarized in the “Servicewide Mandates and Policies” section of this document.

Methodology

This impact topic was not identified by the public as an issue, but is included in order to meet the requirements of the National Environmental Policy Act and NPS regulations. Effects on prime and unique farmlands were addressed by identifying

where these resources are generally located in the park, and then relating anticipated effects of construction and operation of park facilities.

Thresholds for this impact topic are presented in Table 26.

Table 26. Impact Thresholds for Prime and Unique Farmlands

Negligible adverse: Effects of construction on prime and unique farmlands are not detectable.
Minor adverse: Effects of construction on prime and unique farmlands are slightly detectable with no overall change.
Moderate adverse: Effects of construction on are expected to have an appreciable effect on prime and unique farmlands.
Major adverse: Effects of runoff on the prime and unique farmlands are substantial and highly noticeable, and are expected to have a permanent effect. Structural mitigation measures would result in noticeable reduction of soil erosion. Structural mitigation measures are implemented but have minimal beneficial effects.
Negligible adverse: Impacts on prime and unique farmlands due to development in the area surrounding the park are perceptible and can be measured; and are highly localized and confined to a single limited area.
Minor adverse: Impacts on prime and unique farmlands due to development in the area surrounding the park are measurable and perceptible, and occur at more than one location. Overall effect is still within a very small area.
Moderate adverse: Impacts on prime and unique farmlands due to development in the area surrounding the park affects several small sites or a larger area at a single location.
Major adverse: Impacts on prime and unique farmlands due to development in the area surrounding the park affects numerous locations of larger size, or effects on a single large floodplain area.

The major assumption for this assessment was that potential effects on prime and unique farmland within the park are related to the amount of land disturbance caused by construction and operation of park facilities. It was assumed that the amount of allowable construction inside the park would be relatively small for each of the alternatives, and that the amount of construction occurring under the No Action Alternative would be relatively limited. It was assumed that during operation, the amount of disturbance of prime and unique farmlands would be negligible.

It was also assumed that resource and other management plans would not be prepared and implemented under the No Action Alternative. This implies that prime and unique farmlands would not be inventoried or managed beyond what is currently being done, and that management activities would be minimal. Trails would also not be maintained to the extent possible, and the trail system would not be managed in the same way as it would be under an implemented plan.

Impairment of prime and unique farmland would occur if there was a significant adverse impact to this resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other National Park Service planning documents.

Analysis

Construction and operation of NPS facilities could impact prime and unique farmlands, all of which are located north of McGinnis Ferry Road. The No Action Alternative would have a low relative potential to impact these farmlands, however, since this alternative would involve limited construction, maintenance and operation activities. There would be some potential for soil disturbance, however. The overall direct effect of the limited construction activities completed under No Action Alternative on prime and unique farmland were estimated to be minor, adverse and long- term because of the low potential for this to occur and the fact that resource and other management plans would not be implemented. Soil erosion would also be minimized in the vicinity of these farmlands types since best management practices would be instituted. Should a project be proposed that would affect a prime and unique farmland in the future, a site specific environmental assessment would be completed, and the effects would be further addressed.

Cumulative Impacts on Prime and Unique Farmlands

The cumulative adverse effects of the construction, maintenance and operation activities within the park on prime and unique farmlands under the No Action Alternative would be moderate, adverse, and long- term since this alternative would involve small amounts of construction and operation of new facilities in the park. Since a new resource and other management plans would not be implemented, these soils would also not be as protected as they would be if plans were in place. Should a project be proposed that would affect a prime and unique farmland in the future, a site specific environmental assessment would be completed, and impacts would be further addressed.

The effects of development in the area surrounding the park on prime and unique farmland were estimated to be moderate, adverse and long- term. This would be caused by effects of runoff from impervious surfaces in the area surrounding the park, and would be difficult to control under any alternative.

There would be no irreversible or irretrievable commitment of prime and unique farmland resources with this alternative.

Conclusions

The No Action Alternative would have minor, adverse, long- term, direct effects and moderate, adverse, long- term cumulative effects on prime and unique farmlands. The level of activities associated with construction and operation of new park facilities would be limited, but some new projects would be constructed and operated. Natural resource and other management plans would not be implemented. Site- specific environmental assessments would identify these resources and would help to avoid them.

There would be no impairment of prime and unique farmlands as a result of park actions under this alternative.

IMPACTS OF THE NO ACTION ALTERNATIVE ON CULTURAL RESOURCES

This section describes the methods used, analysis of effects conducted and conclusions drawn for archeological resources and historic buildings, structures and objectives.

IMPACTS OF THE NO ACTION ALTERNATIVE ON ARCHEOLOGICAL RESOURCES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to archeological resources are presented in the "Servicewide Mandates and Policies" section of this document.

Methodology

This section provides an evaluation of potential effects on archaeological resources within the area described in the "Geographic Area Covered by the General Management Plan" section. The archaeological resource evaluation consists of comparing conditions that would occur under each of the alternatives. The main issue identified during public meetings and workshops for this impact topic was how the implementation of the plan would affect archeological resources in the park. This would include construction and operation activities of new park facilities.

The Advisory Council on Historic Preservation's "Regulations for the Protection of Historic Properties" (36 CFR 800) provide guidance for determining whether an historic property (includes archaeological sites, historic buildings, structures and objects and properties of traditional, religious, and cultural significance) is eligible for inclusion on the National Register of Historic Places and provides a procedure for nominating such properties to the register. The regulations also explain what constitutes an impact or effect on an archeological or historic property listed on or eligible for listing on the National Register of Historic Places. These definitions were used in this general management plan/environmental impact statement.

Thresholds used for assessing the intensity of potential impacts on archeological resources are presented in Table 27.

Table 27. Impact Thresholds for Archeological Resources

Negligible adverse: Impact is at the lowest levels of detection - barely measurable with no perceptible consequences, either adverse or beneficial, to archeological resources. For purposes of Section 106, the determination of effect would be *no adverse effect*.
Minor adverse: disturbance of a site(s) results in little, if any, loss of the site(s) significance or integrity and the site's National Register eligibility is unaffected. For purposes of Section 106, the determination of effect would be *adverse effect*.
Moderate adverse: disturbance of the site(s) does not diminish the significance or integrity of the site(s) to the extent that its National Register eligibility is jeopardized. For purposes of Section 106, the determination of effect would be *adverse effect*.
Major adverse impact: disturbance of the site(s) diminishes the significance and integrity of the site(s) to the extent that it is no longer eligible to be listed in the National Register. For purposes of Section 106, the determination of effect would be *adverse effect*.
Minor beneficial: maintenance and preservation of a site(s). For purposes of Section 106, the determination of effect would be *no adverse effect*.
Moderate beneficial: stabilization of the site(s). For purposes of Section 106, the determination of effect would be *no adverse effect*.
Major beneficial: active intervention to preserve the sites. For purposes of Section 106, the determination of effect would be *no adverse effect*.

The major assumptions used in this analysis were that the potential for adverse effects on archeological resources is related primarily to the degree of physical disturbance of areas in the park where construction and operation of park facilities would occur. Alternatives involving higher levels of physical disturbance in relation to the No Action Alternative have a higher potential to adversely affect archeological resources. Specifically, the potential for an alternative to diminish the significance or integrity of the site(s) to the extent that its National Register eligibility is affected was used as the primary criteria for estimating effects. Beneficial effects were assessed based on the potential to maintain, preserve or stabilize sites. In addition, it was also assumed that development and implementation of a resource management plan and a collections management plan would help avoid, minimize or reduce the potential adverse effects of NPS actions.

Impairment of archeological resources would occur if there was a significant adverse impact to archeological resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other NPS planning documents.

Analysis

As discussed in the "Affected Environment" section, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Current management practices would continue due to staffing and funding constraints, and the archeological knowledge base would not be expanded through additional studies, surveys or research. Any ground- disturbing activities associated with the No Action Alternative would have the potential to adversely affect such sites.

Until a National Register of Historic Places evaluation for any site was completed, it would be assumed that the site is eligible for listing on the register. Therefore, until proven otherwise, disturbance to any archaeological site that was discovered during the survey, design, or construction of any facilities under the No Action Alternative would be considered an adverse effect.

As described in the section entitled "Servicewide Mandates and Policies," the National Park Service is required to protect archaeological resources within the park. Therefore, prior to undertaking any construction activity under the No Action Alternative, the National Park Service would conduct an environmental assessment, and:

Conduct cultural resources surveys of areas to be disturbed, including trail alignments

Identify all archaeological resources that are discovered during the surveys

Systematically evaluate each site to determine and document its significance to support its nomination for National Register of Historic Places eligibility

Determine eligibility in concert with the Georgia State Historic Preservation Officer and Advisory Council on Historic Preservation

Relocate any facilities that would disturb National Register of Historic Places- eligible sites

The collection of data to support the eligibility evaluation, and the determination of eligibility can be time consuming. Therefore, as a timesaving approach, the National Park Service would assume that any archaeological site that is discovered is eligible for listing, and would relocate the project to be constructed to avoid that site. This approach would substantially reduce the potential for construction- related adverse effects to archaeological resources.

Under any alternative, the integrity of some sites would be degraded by natural processes such as wind and water erosion, or by vandalism or inadvertent damage by visitors. These processes could result in non- construction related direct adverse effects on archeological resources. Because the No Action Alternative would not involve establishment of specific cultural resource zones within the park, and would not result in implementation of a cultural resources management plan or a collections management plan, the level of protection for archeological resources in the park under the No Action Alternative is considered to be less than that proposed by any of the other action alternatives. If resources were not surveyed, protected and preserved, the effect of the No Action Alternative on archeological resources would be estimated to be a major, direct, adverse, and long- term.

Cumulative Impacts

The cumulative effect of construction and maintenance activities under the No Action Alternative could result in major, direct, adverse, long- term impacts on cultural resources. However, a site- specific environmental assessment would be required for each project, and such impacts could be mitigated effectively. Where sites were disturbed, such as the discovery of a site during construction, data recovery and preservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archaeological resources.

This alternative has a potential for causing major, adverse cumulative impacts on archeological resources, especially since a cultural resources management plan or a collections management plan would likely not be prepared and implemented under this alternative. The potential for cumulative impacts to occur is greater under this alternative than any of the three action alternatives.

Conclusions

Because the No Action Alternative involves some construction- related activities and a relatively wide variety of visitor use, without the benefits associated with the establishment of cultural resource zones and/or the implementation of a resource management plan or a collections management plan, the potential for adverse effects is considered to be relatively high under the No Action Alternative. Despite the amount of data recovery and preservation efforts associated with construction, these efforts would only partly mitigate impacts. The disturbance from construction and increased vandalism or inadvertent visitor damage over time could result in some irretrievable and irreversible loss of archaeological resources. This alternative could therefore have major, adverse, long- term direct and cumulative impacts on archeological resources. Implementation of this alternative could lead to impairment of archeological resources in the park.

Archeological resources in most of the metropolitan Atlanta area have been disturbed as a result of development and urban sprawl. Therefore, protection and preservation of

archaeological sites within the park is important on a regional level, as these resources represent former conditions throughout the area. Continuing protection of resources identified would have a moderate beneficial long- term impact by preserving them for the future.

IMPACTS OF NO ACTION ALTERNATIVE ON HISTORIC BUILDINGS, STRUCTURES AND OBJECTS

Regulations and Policy

The regulations and policies that guide NPS actions with respect to historic buildings, structures and objects are presented in the "Servicewide Mandates and Policies" section of this document.

Methodology

The analysis of impacts to historical buildings, structures, and objects used the same effects criteria and definitions as the archeological resources analysis. Please refer to the previous section for a description of the methods that were applied. The thresholds for this impact topic are presented in Table 28.

Table 28. Impact Thresholds for Cultural Resources, Historic Buildings, Structures and Objects

Negligible adverse: Impact(s) is at the lowest levels of detection - barely perceptible and not measurable. For purposes of Section 106, the determination of effect would be *no adverse effect*.
Minor adverse: impact would not affect the character defining features of a National Register of Historic Places eligible or listed structure, building, or object. For purposes of Section 106, the determination of effect would be *no adverse effect*.
Moderate adverse - impact would alter a character defining feature(s) of the structure, building, or object but would not diminish the integrity of the resource to the extent that its National Register eligibility is jeopardized. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Table 28. Impact Thresholds for Cultural Resources, Historic Buildings, Structures and Objects

Major adverse - impact would alter a character defining feature(s) of the structure, building, or object, diminishing the integrity of the resource to the extent that it is no longer eligible to be listed in the National Register. For purposes of Section 106, the determination of effect would be *adverse effect*.
Minor beneficial: stabilization/ preservation of character defining features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, to maintain existing integrity of a structure, building, or object. For purposes of Section 106, the determination of effect would be *no adverse effect*.
Moderate beneficial– rehabilitation of a structure or building in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, to make possible a compatible use of the property while preserving its character defining features. For purposes of Section 106, the determination of effect would be *no adverse effect*.
Major beneficial– restoration in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, to accurately depict the form, features, and character of a structure or building as it appeared during its period of significance. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Analysis

The No Action Alternative does not include establishment of any cultural resource zones, nor does it address additional parcels and resources under the expanded boundaries. Due to existing staffing and funding constraints, the No Action Alternative is considered to offer a minimal level protection to historic buildings, structures, and objects. No major new initiatives would be expected to occur.

Historic buildings, structures and objects in the park are subject to degradation by natural processes such as wind and water erosion, vandalism, or inadvertent damage by visitors. The No Action Alternative offers no increased level of protection from degradation and vandalism for

historic buildings, structures and objects. The resources would continue to be maintained as at present levels. If these resources are not surveyed, or receive increased levels of protection and preservation, this alternative could have a direct, adverse long- term impact on historic buildings, structures and objects.

Cumulative Impacts

The limited construction, maintenance and operation activities in the park related to historic buildings, structures and objects under the No Action Alternative could result in adverse, long-term, cumulative effects. Since a cultural resources management plan or a collections management plan would not be implemented under this alternative, nor is it likely that extensive surveying would be conducted, the potential for adverse effects would likely occur due to degradation from natural causes, vandalism and inadvertent visitor damage. This alternative would therefore have an adverse, long- term cumulative impact on historic buildings, structures and objects. Where resources were disturbed, such as discovery of a site during construction, data recovery and preservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of historic buildings, structures, and objects.

Conclusions

The park contains a variety of historic buildings, structures and objects that are significant to the historical development of the Chattahoochee River corridor and the greater Atlanta area. Some of these resources are among the last remaining examples of their construction types in the region. Under the No Action Alternative, those resources that have been identified would continue to be protected at current levels. Under the No Action Alternative, few of the historic buildings, structures and objects in the park would be afforded enhanced protection and preservation treatment. Such treatment is required for National Register listed properties, particularly where stewardship of the resource can be shared with a public or private entity, but no wholesale program would exist for the inventory, protection, and preservation of unevaluated or potentially eligible resources under the No Action Alternative. Implementation of this alternative could lead to adverse, direct and cumulative impacts, as well as potential impairment of historic buildings, structures and objects in the park.

IMPACT OF NO ACTION ALTERNATIVE ON LOCAL AND REGIONAL TRANSPORTATION

Regulations and Policy

The regulations and policies that guide NPS actions with respect to transportation resources are presented in the "Servicewide Mandates and Policies" section of this document.

Methodology

Transportation issues identified during public meetings and workshops included concern over the effects of transportation and traffic in the park on surrounding local and regional transportation patterns, how plan implementation would affect the use of both paved and unpaved trails, connections between adjacent communities and the park, and management of nonmotorized transportation in the park. In addition, concern was expressed regarding the effects of off- road bicycle use on water quality and erosion.

All of these issues have been incorporated into a qualitative assessment of the potential effects of the alternatives on regional and local transportation resources. Thresholds for these generalized types of effects are presented in Table 29.

Table 29. Impact Thresholds for Local and Regional Transportation

Negligible adverse: a change in local and regional transportation features that would not be detectable and would have no discernable effect on the park resources and values, visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.

Table 29. Impact Thresholds for Local and Regional Transportation

Minor adverse: a change in local and regional transportation features that would be slightly detectable but would not be expected to have an overall effect on the park resources and values, visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.
Moderate adverse: a change in local and regional transportation features that would be clearly detectable and could have an appreciable effect on the park resources and values, visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.
Major adverse: a substantial and noticeable effect on of local and regional transportation features that could permanently alter park resources and values, visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.
Minor beneficial: a change that would be slightly detectable and would not be expected to have an overall minor beneficial effect on visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.
Moderate beneficial: a change that would be clearly detectable and could have an appreciable beneficial effect on visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.

Table 29. Impact Thresholds for Local and Regional Transportation

Major beneficial: a change that would result in a substantial and noticeable beneficial effect on visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.

The methods used to assess local and regional transportation impacts are described below:

The definition of impacts on transportation resources was estimated by comparing relative increases in traffic volumes under each alternative to known problem areas in the vicinity of the park, and areas with short and long- term improvements being planned by the Georgia Department of Transportation. This information included the following:

- Roadways currently impacted by the park
- Currently congested roadways
- Roadways with planned short- range improvements
- Roadways with planned long- range improvements

Information on the above factors was obtained from the *Atlanta Region Transportation Planning Fact Book 2000* (Atlanta Regional Commission 2000a), *the Atlanta Region 2025 Regional Transportation Plan* (Atlanta Regional Commission 2000b), the *Atlanta Regional Congestion Management System* (Atlanta Regional Commission 2000c), and the *Atlanta Region Transportation Improvement Program*: 2002 – 2004 (Atlanta Regional Commission 2000d). Table 30 summarizes information collected and relates the projected degree of impact at areas that were identified as being congested and/or where short- and long- term improvements are planned. The degree of impact was then assigned based on the estimated degree of congestion that would result from construction of new NPS facilities in the vicinity of the identified areas. Using this approach, a designation of negligible, minor, moderate or major intensity of impact was assigned to each alternative.

An assessment of the relative cumulative impact of the alternatives on proposed future transportation projects in the vicinity of the park was also conducted. A list of future transportation projects in the area is provided in Appendix G. These include roads, bikeways, pedestrian facilities, and transit projects.

Because of the generic nature of this general management plan/environmental impact statement, highly detailed projections of specific traffic patterns and changes in volumes of traffic at specific locations were not possible. The designation of negligible, minor, moderate, or major adverse impacts are therefore relative terms based on known and expected transportation problem areas and areas where improvements are planned. A designation of a "major" degree of impact does not necessarily mean that the trips attracted to that particular park area would heavily impact the roadway network in the area. Instead, the "major" impact designation is intended to indicate that that particular alternative would have a greater effect on the number of trips generated and effects on area roadways as compared with other alternatives and other areas of the park.

A primary assumption used in this analysis is that the amount of traffic generated by the alternatives would be dependent on the number of developed areas. Alternatives involving more developed areas would be expected to have a greater potential to cause increased levels of adverse local and regional transportation effects. It is also assumed that the overall amount of adverse transportation- related effects generated by the park, although heavy in certain areas such as the Cochran Shoals unit near Johnson's Ferry road, would be relatively minor in comparison with the traffic generated and characteristic of the surrounding Atlanta Metropolitan area.

An additional assumption was that alternatives with a greater amount of development and vehicular accessibility would be assumed to attract more visitors to the park in the future, and would have greater relative transportation- related effects. These areas would primarily include the developed zones and the hubs (hubs are only proposed under the Centralized Access Alternative). As traffic volumes increase, transportation- related impacts would include increased levels of traffic congestion on park roads and parking lots, increased noise levels in the park, and increased amounts of vehicle emissions.

All roads and other transportation- related facilities proposed under the No Action Alternative are within NPS ownership and jurisdiction. Chapter 9 of the National Park Service's *Management Policies 2001* (National Park Service 2001a) provides guidance for management of park access and circulation systems. While there are no legal restrictions to the traffic management actions associated with any of the alternatives, their implementation in the park would require coordination with local, regional, and federal transportation and planning agencies.

Analysis

Under the No Action Alternative, existing levels of access and other transportation features at the 16 existing park units would be maintained. Under the No Action alternative, very few changes in park transportation features would occur. The majority of accessible parkland would therefore continue to be located in the southern portion of the park, in close proximity to the higher population densities of the park corridor. This would facilitate bicycle and pedestrian access to the park, and would reduce travel distances for vehicle trips for those living in close proximity to the park. However, the No Action Alternative would also result in similar incidences of congested roadway facilities in close proximity to park units in the southern portion of the study area with a likelihood that congested conditions would likely worsen in the future.

Table 30 lists the streets and highways and the expected level of impact produced by the No Action Alternative. With the exception of the Bowman's Island area (major long- term effect predicted), the projected long- term transportation impacts are either minor adverse or moderate adverse, and long- term, under the No Action Alternative. A number of the roadways that could be impacted by increased activity at various areas of the park are either scheduled for improvement in the near future or are planned for improvement by 2025. In certain areas, roadways that are currently congested are not planned for improvement. However, alternate facilities are planned in other specific areas, for example, the

Table 30: Transportation Related Impacts (Based on Data Available as of Fall 2001[1])

	Relative Degree of Adverse Impact by Alternative (Long- Term)				Current Conditions and Projected Improvements[1]			
Area	Relative Degree of Impact of Focus on Solitude Alternative	Relative Degree of Impact of Centralized Access Alternative	Relative Degree of Impact of Expanded Use Alternative	Relative Degree of Impact of No Action Alternative	Rd.ways Currently Impacted by Park	Currently Congested Rd.ways	Rd.ways with Planned Short Range Improvements Planned	Rd.ways with Planned Long Range Improvements
Fort Peachtree	Minor	Minor	Moderate	Minor	Highway 41	Highway 41		
Paces Mill	Moderate	Moderate	Moderate	Minor	I- 285, I- 75, Cobb Parkway	I- 285, I- 75, Cobb Parkway	Cobb Parkway	I- 285, I- 75
Palisades	Minor	Minor	Major	Minor	I- 285, Northside Dr.. Mt Vernon Highway, Powers Ferry Rd., Riverview Rd.	I- 285, Mt. Vernon Highway, Powers Ferry Rd.		I- 285
Powers Island	Moderate	Moderate	Moderate	Moderate	I- 285, Interstate North Parkway, Northside Dr.	I- 285		I- 285
Cochran Shoals	Moderate	Moderate	Moderate	Moderate	Johnson Ferry Rd., Paper Mill Rd., Columns Dr.	Johnson Ferry Rd.		Morgan Falls Bridge (alternate facility)
Sope Creek	Moderate	Moderate	Moderate	Moderate	Paper Mill Rd.	Paper Mill Rd.		
Johnson Ferry	Minor	Minor	Major	Minor	Johnson Ferry Rd., Riverside Dr., Columns Dr.	Johnson Ferry Rd.		Morgan Ralls Bridge (alternate facility)

Table 30 (Continued): Transportation Related Impacts (Based on Data Available as of Fall 2001[1])

	Relative Degree of Adverse Impact by Alternative (Long- Term)				Current Conditions and Projected Improvements[1]			
Area	Relative Degree of Impact of Focus on Solitude Alternative	Relative Degree of Impact of Centralized Access Alternative	Relative Degree of Impact of Expanded Use Alternative	Relative Degree of Impact of No Action Alternative	Roadways Currently Impacted by Park	Currently Congested Roadways	Roadways with Planned Short Range Improvements Planned	Roadways with Planned Long Range Improvements
Gold Branch	Minor	Minor	Moderate	Minor	Lower Roswell Road, Timber Ridge Road, Willeo Road	Lower Roswell Road		
Vickery Creek	Minor	Minor	Moderate	Minor	Roswell Road, Azalea Drive, Riverside Drive	Roswell Road		
Island Ford	Minor	Minor	Moderate	Minor	GA 400, Northridge Road, Dunwoody Place, Roberts Drive	GA 400, Northridge Road		GA 400
Holcomb Bridge	Minor	Minor	Moderate	Minor	Holcomb Bridge Road	Holcomb Bridge Road		
Jones Bridge	Moderate	Moderate	Moderate	Moderate	Holcomb Bridge Road, Jones Bridge Road, Barnwell Road	Holcomb Bridge Road, Jones Bridge Road, Barnwell Road		
Jones Bridge	Moderate	Moderate	Moderate	Moderate	Holcomb Bridge Road, Jones Bridge Road, Barnwell Rd.	Holcomb Bridge Road, Jones Bridge Road, Barnwell Rd.		

Table 30 (Continued): Transportation Related Impacts (Based on Data Available as of Fall 2001[1])

	Relative Degree of Adverse Impact by Alternative (Long- Term)				Current Conditions and Projected Improvements[1]			
Area	Relative Degree of Impact of Focus on Solitude Alternative	Relative Degree of Impact of Centralized Access Alternative	Relative Degree of Impact of Expanded Use Alternative	Relative Degree of Impact of No Action Alternative	Roadways Currently Impacted by Park	Currently Congested Roadways	Roadways with Planned Short Range Improvements Planned	Roadways with Planned Long Range Improvements
Medlock Bridge	Moderate	Moderate	Moderate	Moderate	Peachtree Parkway, Medlock Bridge Road	Peachtree Parkway, Medlock Bridge Road		
Abbotts Bridge	Minor	Moderate	Major	Minor	Abbotts Bridge Road, Boles Road	Abbotts Bridge Road		GA 120/Abbotts Bridge Road
Suwanee Creek	Minor	Moderate	Major	Minor	Peachtree Industrial Boulevard, Chattahoochee Drive			
McGinnis Ferry	Minor	Moderate	Major	Minor	McGinnis Ferry Road	McGinnis Ferry Road		McGinnis Ferry Road
Settles Bridge	Minor	Moderate	Major	Minor	Suwanee Dam Road, Johnson Rd.			
Bowman's Island	Moderate	Moderate	Moderate	Major	Cumming Highway/GA 20, Buford Dam Road, Suwannee Dam Rd.	Cumming Highway/GA 20	GA 20, Buford Dam Road	Cumming Highway

Table 30 (Continued): Transportation Related Impacts (Based on Data Available as of Fall 2001[I])

	Relative Degree of Adverse Impact by Alternative (Long- Term)				Current Conditions and Projected Improvements[I]			
Area	Relative Degree of Impact of Focus on Solitude Alternative	Relative Degree of Impact of Centralized Access Alternative	Relative Degree of Impact of Expanded Use Alternative	Relative Degree of Impact of No Action Alternative	Roadways Currently Impacted by Park	Currently Congested Roadways	Roadways with Planned Short Range Improvements Planned	Roadways with Planned Long Range Improvements

[I] Based on information contained in ARC Transportation Improvement Plan (TIP) (ARC 2001a) and ARC 25 Year Regional Transportation Plan (RTP). (ARC 2000b)

Morgan Falls Bridge, that could help to relieve congestion in that area. In general, the effect of the No Action Alternative would produce moderate, adverse effects on transportation in the majority of cases.

No new trails would be constructed under the No Action Alternative. An integrated trails system plan would not be developed and implemented. Use of internal, or social trails in the park would continue to increase. Inappropriate use of off- road bicycles in certain areas would increase over time due to limitations of park staff to enforce proper use of existing trails. The effect would be increased erosion, rutting, and resource damage. These adverse effects associated with off- road bicycle use would increase over current levels in the park, since an integrated trails system plan would not be implemented. This would constitute a moderate, adverse, long- term effect. Overall, this would constitute a moderate, long- term adverse effect on park resources.

Efforts to increase connectivity with trails systems being developed in the area surrounding the park by local governments would be limited since an integrated trails system plan would not be implemented. This would constitute a moderate, long- term adverse effect on the ability to develop improved connectivity with the surrounding communities.

Efforts to improve and manage non- motorized vehicles such as bicycles in the park would be minimal since an integrated trails system plan would not be implemented. The No Action Alternative would have a moderate, adverse, long- term direct effect on non- motorized travel in the park as a result. The No Action Alternative is estimated to have a negligible adverse long- term influence on an individual's decision to walk or ride a bicycle to get to the park.

Cumulative Impacts

The cumulative effects of the No Action Alternative on transportation and traffic in the park and on the surrounding region would be moderate, adverse and long- term, based on the data presented in Table 30. Areas currently experiencing congestion would be expected to continue to do so in the future if planned improvements do not take place.

The cumulative effect of the No Action Alternative on the use of paved and unpaved trails would be moderate, adverse, and long- term. Current paved and unpaved trails throughout the park would continue to be managed in the same way, additional trails would not likely be planned, and an integrated trails system plan would not be implemented. These effects would be parkwide.

The cumulative effect of the No Action Alternative on connectivity would be moderate, adverse, and long- term. The lack of improved connectivity would extend throughout the park, since expanded programs to partner with the surrounding local governments would be implemented, and an integrated trails system plan would not be developed and implemented.

The cumulative effect of the No Action Alternative on management of non- motorized transportation in the park would extend throughout the park and would be moderate, adverse, and long- term. Problems with off- road bicycling areas would continue to worsen, since management plans would not be instituted.

The cumulative effect of off- road bicycle use on water quality and soil erosion would be moderate, adverse and long- term, since these effects would be expected to worsen throughout the park as the surrounding area grows, and pressure to use the park for off- road bicycling increase. These effects would extend throughout the park and would be moderate, adverse, and long- term.

There would be no irreversible commitment of resources associated with transportation with this alternative. Limited amounts of nonrenewable resources would be used for maintenance of roadways and paved trails, including energy and materials. The energy and materials resources would be irretrievable once they were committed.

Conclusions

An integrated trails or other management plans would not be completed and implemented, and

efforts to improve connectivity with the surrounding areas would be minimal under this alternative. Existing transportation problems would continue, with no change in management approaches. The overall direct and cumulative transportation impacts under the No Action Alternative would therefore be moderate, adverse, and long- term.

IMPACTS OF NO ACTION ALTERNATIVE ON VISITOR AND COMMUNITY VALUES

Regulations And Policy

The regulations and policies that guide NPS actions with respect to visitor and community values are presented in the "Servicewide Mandates and Policies" section of this document.

Methodology

This section provides an assessment of the potential effects of each alternative on visitor and community values as described in the "Traditional Park Character and Visitor Experiences" portion of the "Affected Environment" section. Public comments submitted during scoping were used as an indication of the range of public concerns regarding visitor and community values. These issues included the following:

Recreational Opportunities

Scenery, opportunities to learn about the natural world, natural quiet, and the ability to hear natural sounds were noted as desirable features of the park.

The historic resources present within the park and their appreciation by visitors.

The lasting value of the park as a gathering place for family and friends.

The importance of shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.

Numbers and Types of Visitor Facilities

Provide suitably marked and increased numbers of restroom facilities at appropriate locations within a close walking distance to the river.

Keep the exercise stations at Cochran Shoals.

Create a visitor's center or central location for visitors to gather (visitor center – headquarters - with individual offices outside the park).

Improve bicycling support facilities such as racks to lock bikes where park units are accessible by bicycle.

Provide picnic tables and trash cans at each unit.

Traditional Character

The importance of protecting the park's natural qualities, not only for the ecological resources, but also for its restorative value to people within an urban setting. Preserving and protecting the natural and traditional character of the park from disturbance. Park actions will not conflict with land use plans, policies, or controls.

Visitor Experience

The public appeared to be mostly satisfied with the range of recreational opportunities offered by the park, although the majority of comments dealt with trails and the need for an improved trail system that would provide increased connectivity.

Individual and physically challenging recreation such as bicycling, boating, fishing, jogging, and hiking.

The traditional, familiar character of the park's recreational features and the publics' desire to see this character maintained.

The impacts of each alternative on these four issue areas then were estimated by qualitatively comparing the anticipated visitor experience for various prescribed uses under each alternative.

The assumptions used in this analysis were that: (1) under the No Action alternative, the existing management program for visitor experience would be extended into the future, and that few or no new programs for visitors would be planned and implemented; (2) the amount and type of facilities for visitors would remain unchanged under the No Action Alternative; (3) no new areas would be added to the park under the No Action Alternative, but under any of the action alternatives, new areas could be added (up to a maximum of 10,000 acres); (4) the Centralized Access alternative would provide more types and numbers of visitor facilities and programs then the Focus on Solitude Alternative in five developed zones and up to three hubs; (5) the Expanded Use Alternative would provide the highest number and greatest variety of visitor facilities and programs in eleven developed areas; (6) resource and other management plans would not be developed and implemented under the No Action Alternative, but would be developed and implemented under any of the three action alternatives.

Tables 31 through 34 present the thresholds used to define the effects of the alternatives on visitor and community values. The thresholds were designed to assess the effects on the four issue areas (and subcategories) listed above:

Table 31. Impact Thresholds for Visitor and Community Values - Recreational Opportunity

Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.
Minor adverse: a change would be slightly detectable but would not be expected to have an overall effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.

Table 31. Impact Thresholds for Visitor and Community Values - Recreational Opportunity

Moderate adverse: a change would be clearly detectable by the visitor and could have an appreciable adverse effect on the lasting value of the park as a gathering place for family and friends for shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.
Major adverse: a substantial and noticeable adverse effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.
Minor beneficial: a change would be slightly detectable and would be expected to have an overall noticeable benefit on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.
Moderate beneficial: a change would be clearly detectable by the visitor and could have an appreciable beneficial effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.
Major beneficial: a change would have a substantial and noticeable positive effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.

Table 32. Impact Thresholds for Visitor and Community Values - Visitor Experience

Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the ability of the park to provide a restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.

Table 32. Impact Thresholds for Visitor and Community Values - Visitor Experience

Minor adverse: a change would be slightly detectable but would not be expected to have an overall effect on the ability of the park to provide a restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.
Moderate adverse: a change would be clearly detectable by the visitor and could have an appreciable adverse effect on the ability of the park to provide a restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.
Major adverse: a substantial and noticeable adverse effect on the a restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.
Minor beneficial: a change would be slightly detectable and would be expected to have an overall noticeable benefit by improving the restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.
Moderate beneficial: a change would be clearly detectable by the visitor and could have an appreciable beneficial effect on the restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.

Table 32. Impact Thresholds for Visitor and Community Values - Visitor Experience

Major beneficial: a change would have a substantial and noticeable positive effect on the restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.

Table 33. Impact Thresholds for Visitor and Community Values - Numbers and Types of Visitor Facilities

Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the ability of management to repair and maintain facilities and on the appreciation of resources present within the park
Minor adverse: a change would be slightly detectable but would not be expected to have an overall effect on the ability of management to repair and maintain facilities, and the appreciation of resources present within the park.
Moderate adverse: a change would be clearly detectable by the visitor and could have an appreciable adverse effect on the ability of management to repair and maintain facilities and the appreciation of resources present within the park.
Major adverse: a substantial and noticeable adverse effect on the ability of management to repair and maintain facilities and on the appreciation of resources present within the park.
Minor beneficial: a change would be slightly detectable and would be expected to have an overall noticeable benefit on the ability of management to repair and maintain facilities and on the appreciation of resources present within the park.
Moderate beneficial: a change would be clearly detectable by the visitor and could have an appreciable beneficial effect on the ability of management to repair and maintain facilities and on the appreciation of resources present within the park.

Table 33. Impact Thresholds for Visitor and Community Values - Numbers and Types of Visitor Facilities

Major beneficial: a change would have a substantial and noticeable positive effect on the ability of management to repair and maintain facilities and on the appreciation of resources present within the park.

Table 34. Impact Thresholds for Visitor and Community Values - Traditional Character

Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.
Minor adverse: a change would be slightly detectable but would not be expected to have an overall effect on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.
Moderate adverse: a change would be clearly detectable by the visitor and could have an appreciable adverse effect on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.
Major adverse: a substantial and noticeable adverse effect on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.

Table 34. Impact Thresholds for Visitor and Community Values - Traditional Character

Minor beneficial: a change would be slightly detectable and would be expected to have an overall noticeable benefit on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.
Moderate beneficial: a change would be clearly detectable by the visitor and could have an appreciable beneficial effect on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.
Major beneficial: a change would have a substantial and noticeable positive effect on the on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.

Analysis

Recreational Opportunity — Under the No Action Alternative, recreational opportunities that currently exist in the park would continue to be available similar to existing conditions. These recreational opportunities would continue into the future unless resource management concerns arise. These opportunities include the existing systems of trails (hiking, walking, bicycling, horse), various boat ramps throughout the park for access to the river for fishing and boating, and maintenance of the administration building, restroom facilities, parking lots, and roads. The availability and diversity of recreational opportunities would continue as currently managed. Some trails are currently relatively degraded and many social trails are causing soil erosion. Areas such as Cochran Shoals are over- crowded and would continue to experience this problem.

Due to increased population growth and development in the surrounding region, areas currently used for certain types of recreational activities could become even more crowded and affect the quality of the visitor experience. For example, boating, hiking or fishing in high- use areas could become a more social rather than a solitary experience. Crowded conditions could worsen as competition grows for facilities. Few if any new or expanded recreational opportunities would be available under the No Action Alternative.

Depending on location in the park, and visitor preferences, this alternative would have minor to major, adverse long- term effects on recreational opportunities and visitor experiences. The overall effects of this alternative on recreational opportunities, and associated environmental impacts, however, were estimated to be major, adverse and long- term. A limited number of new trails would be constructed, but an integrated trails system plan would not be developed and implemented, and the number of non- authorized, informal trails would grow; and soil erosion would probably continue or worsen. Future limits on visitor numbers may be required due to an expected increase in park visitors and the continued need to protect and preserve the park's cultural and natural resources. Areas currently used for certain types of recreational activities could become increasingly crowded and would have a major, adverse, long- term effect on the quality of the visitor experience. Boating, hiking or fishing in high- use areas could become a more social rather than a solitary experience. Crowded conditions would worsen as competition grows for limited recreational opportunities. No new restrooms would be constructed. The overall direct effect of the No Action Alternative was therefore estimated to be major, adverse and long- term. The continued availability of existing recreational opportunities throughout the park, however, would result in a simultaneous minor, beneficial, long- term direct effect.

Visitor Experience — Under the No Action Alternative, visitor and community values would continue to be shaped by present management policies and programs. The National Park Service would continue to operate the 16 current units of the park, with no plans to add new parcels. Under the No Action Alternative, the park would continue to provide opportunities for solitude in more remote areas, as well as more active forms of recreation in areas such as Sope Creek and Cochran Shoals. The present opportunities to participate in park programs (interpretation) and education programs would continue, resulting in a minor, beneficial, long- term, direct effect. This includes education programs with area schools and a program for training teachers in the field of environmental education. Only limited additional park staff resources would be available to expand educational or research programs in the park or local communities, however. Few if any new visitor outreach programs would be developed and the visitor experience would not be expanded over the current teacher education program and research program. Since an integrated trails system plan would not be developed and implemented, problems with erosion along trails in certain areas of the park would be expected to continue or worsen. Coordination with local trail planning organizations and connectivity of new trails system would be similar to existing levels, and no integrated trails planning effort would be conducted or implemented. The quality of the visitor's experience would be diminished. Trail construction methods, monitoring, and restoration efforts would be similar to current practices.

This alternative would have an overall moderate, adverse long- term effect on visitor experiences since no new programs, facilities or related increase in park staff levels would be expected to occur. An integrated trails system plan would not be developed or implemented, leading to degradation and continued overuse of the trails.

Numbers and Types of Visitor Facilities — The No Action Alternative would result in limited construction of new facilities and continued maintenance of existing visitor facilities in the park. This alternative would be limited to maintaining existing facilities such as boat ramps, restrooms, administration buildings, roads, parking lots, and trails and constructing boat ramps.

The overall effect on visitor experience and values would be a continuation of present conditions and access to available facilities, as park resources

allow. This would constitute a major, adverse long-term effect since no new facilities would be available to accommodate the expected increased numbers of visitors in the future. The continued availability of existing visitor facilities throughout the park, however, would result in a simultaneous minor, beneficial, long- term, direct effect.

Traditional Character — As the population in the region grows, increased visitation would be expected under the No Action Alternative. Park rangers would have increased difficulty protecting the natural and cultural features of the park that are valued by visitors, due to limitations in the numbers of park staff, including maintenance, monitoring, and other resource management activities. Although visitors would continue to have access to the wide variety of established opportunities described in the "Affected Environment" section, park staff and park management resources would face increasing pressure to address infrastructure problems, a need for additional administration and operations support, and increasing resource threats such as natural degradation and visitor impacts to historic resources, erosion, sedimentation, and water quality concerns. This was estimated to result in major, direct, adverse, long- term effect on the ability to protect park resources, and the overall character of the park as a resource would be diminished because of a lack of suitable interpretive, education, and management programs. The continued availability of existing park resources to visitors, however, would result in a simultaneous minor, beneficial, direct, long- term effect.

During public meetings and workshops, the public expressed concern over protection of natural and cultural resources. Under the No Action Alternative, resource and other management plans would not be developed or implemented. Without additional park staff to address these increasing concerns in resource protection, major, direct, adverse, long- term effects on traditional park character and visitor experience would occur, as it would be increasingly difficult to maintain the traditional character of the park over time.

Under the No Action Alternative, none of the proposed park actions would conflict with land use plans, policies, or controls. No new park areas would be added under this alternative, so there would be no such conflicts due to addition of new park areas. In addition, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls in the surrounding areas.

Cumulative Impacts

Under the No Action Alternative, the variety and quality of visitor experiences opportunities would become increasingly reduced by the cumulative demands from visitors in the rapidly growing urban and suburban area surrounding the park. The No Action Alternative would therefore have major, adverse, cumulative, long- term effects on recreational opportunities in the park. The continued availability of existing recreational opportunities throughout the park, however, would continue to provide a minor, beneficial, long- term, direct effect.

Under the No Action Alternative, the quality of the experience for the average visitor would decrease over time as a result of the cumulative effects of increasing numbers of visitors from the surrounding area, and the gradual reduction in the quality of the park's natural and cultural resources. This would constitute a major, adverse, long- term cumulative effect on the quality of the visitor experience. The No Action Alternative would also, however, have a minor, beneficial, cumulative, long- term effect on visitor experience, since the current education and research programs would continue at present levels throughout the park, but would not be expanded to meet the growing demand for more services to reach a much broader and diverse audience.

The No Action Alternative would have a major, adverse, long- term cumulative effect on the numbers and types of available visitor facilities, as a result of the combined effect of increased numbers of visitors from the surrounding area and the lack of many new facilities and visitor- related programs. The No Action Alternative would also have a simultaneous minor, beneficial, cumulative, long- term effect on the numbers and types of visitor facilities, since the existing facilities would remain available throughout the park.

Under the No Action Alternative, the combined effects of growth in the area around the park would have a major, adverse, cumulative effect on the overall historical character of the park as an area that could be used for both passive and active recreational uses. The park would nevertheless continue to provide some degree of value to visitors, which would be a minor, beneficial, cumulative, long- term effect.

There would be no irretrievable or irreplaceable commitment of resources associated with this alternative.

Conclusions

The No Action Alternative would still continue to provide visitors opportunities for passive and active forms of recreation. This would constitute a minor, beneficial, direct and cumulative long- term effect. However, this alternative would have adverse, major, long- term adverse effects on visitor experience, recreational opportunities, the numbers and types of visitor facilities, and the character of the park, due to the direct and cumulative effect of increased growth in the surrounding area, combined with lack of suitable resource and other management plan development and implementation.

SUSTAINABILITY AND LONG- TERM MANAGEMENT

The National Environmental Policy Act (sec. 101 (b)), and the National Park Service Organic Act require an assessment of the potential of each alternative to produce long- term impacts and the potential of foreclosing future options that are available to the National Park Service with regard to managing each park. An alternative is required to allow for sustainable development, which is defined as an action that meets the needs of the present without compromising the ability of future generations to meet their needs (*World Commission on Environment and Development* in National Park Service 2001(a). This section addresses the following three components of the sustainability assessment for the No Action Alternative.

The Relationship Between Local Short- Term Uses of The Environment and The Maintenance And Enhancement of Long- Term Productivity - National Environmental Policy Act sec. 102 (c) (iv))

Under the No Action Alternative, existing problems related to growth in the surrounding urban and suburban area and watershed are likely to continue with the growth in population, putting additional pressures on the natural and cultural resources in the park. As demand for visitor use and recreation in the park grows, the long- term protection and enjoyment of park resources could be jeopardized. The continuation of existing visitor uses could jeopardize the long- term productivity of the environment. Sedimentation and erosion (primarily from development activity outside the park), if left unchecked, could have continued adverse effects on aquatic, and terrestrial natural resources.

Any Irreversible or Irretrievable Commitments of Resources That Would be Involved if the Alternative Were Implemented - National Environmental Policy Act (Sec. 102(c) (v))

The National Environmental Policy Act and the National Park Service define irreversible impacts as those effects that cannot be changed over the long term or are permanent (National Park Service 2001a). An effect to a resource is irreversible if the resource cannot be reclaimed, restored, or otherwise returned to its condition before the disturbance. An irretrievable commitment of resources refers to the effects to resources that, once gone, cannot be replaced. There would be a potential for irreversible or irretrievable commitments of cultural resources under the No Action Alternative. These losses could occur because of the lack of data and resources to implement a comprehensive program for cultural resource identification, preservation and protection. In addition, limited amounts of nonrenewable resources would be used for construction projects and park operations, including energy and materials. These resources would be irretrievable once they were committed.

Any Adverse Impacts That Could Not Be Avoided If the Action Were Implemented

The National Environmental Policy (sec. 101(c) (ii)) defines adverse impacts as those that cannot be fully mitigated or avoided. Under the No Action Alternative, where construction activities disturb cultural resource sites, data recovery and conservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archeological resources. In addition, there would be unavoidable moderate to major adverse impacts on natural and cultural resources under the No Action Alternative as a result of the increasing development outside the park. Increased sedimentation and erosion from activities outside the park would continue to degrade water quality and riparian corridors in the park. Mitigation measures would be taken, where park staffing and funding resources allowed, minimizing or reducing these impacts. Increased visitation rates would also have the potential to reduce future availability and access to some types of visitor uses and opportunities in certain areas during peak visitation periods because no additional facilities would be provided under the No Action Alternative. This could result in minor to moderate adverse impacts on the quality of the visitor experience. The overall effect was estimated to be moderate, adverse and long- term.

ENVIRONMENTAL IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE

IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON NATURAL RESOURCES

Natural resources impact topics include air quality, water resources, wetlands and floodplains, rare, threatened and endangered species, terrestrial ecological resources and prime and unique farmlands. Analytical methods are provided under the No Action Alternative. Impact analyses and cumulative impact assessments and conclusions are described for each impact topic.

IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON AIR QUALITY

Regulations and Policy

The regulations and policies that guide NPS actions with respect to air quality are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Under the Focus on Solitude Alternative, construction activities would produce a negligible increase of vehicle emissions and increased fugitive dust from developed sites. The Focus on Solitude Alternative would involve lower levels of construction activities than the No Action Alternative, and would produce the lowest volumes of construction- related air emissions of any of the alternatives. These emissions would produce negligible, adverse, short- term, direct impacts on air quality as a result.

Under the Focus on Solitude Alternative, fewer new park facilities (roads, parking lots, restrooms) would be operated in relation to the No Action Alternative. Emissions generated by park visitor vehicles would be lower than those produced under the No Action Alternative. This alternative would therefore be characterized by the lowest potential for increasing air emissions in the vicinity of the park related to increased vehicular traffic in the park during operations. Operation of the park would therefore also have negligible, adverse, long- term effects on air quality under the Focus on Solitude Alternative.

Air emissions arising outside the park would greatly exceed the volume of emissions inside the park under the Focus on Solitude Alternative. This would constitute a moderate, long- term adverse effect on air quality. The effects of these emissions on the plant and animal communities within the park are unknown, and are out of the control of the park, regardless of the alternative that is implemented.

Cumulative Impacts

Under the Focus on Solitude Alternative, fugitive dust associated with limited construction and maintenance, and vehicle emissions associated with park operations throughout the park would be produced. However, the cumulative effects of these emissions would be considered negligible in relation to the volume of emissions in the region and would constitute a negligible, adverse long-term effect.

The cumulative effects of air quality in the park caused by growth in the surrounding region, in contrast, would be moderate, long- term and adverse. The population in the Atlanta area is projected to continue to grow, and as this occurs, traffic volumes and associated air emissions are likely to increase in the area in and around the park. The volume of air emissions and impacts of these increases would greatly exceed any increased sir emissions associated with construction and operation of park facilities. The Atlanta area is currently not meeting the air quality standards for ozone and this situation may not change for the foreseeable future. As the population and traffic congestion grows in the future, degraded air quality could affect natural resources in the park in as yet unidentified ways. This would constitute a moderate, adverse long- term cumulative effect on air quality in the park.

There would no irretrievable or irreversible commitment of air quality resources with this alternative.

Conclusions

Emissions generated from limited construction, maintenance and operation activities under the Focus on Solitude Alternative would cause negligible, adverse long- term effects on air quality. Growth in the area surrounding the park would cause moderate, adverse cumulative effects on air quality that would not be under the control of the park management.

There would be no impairment of air quality as a result of park actions under this alternative.

IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON WATER RESOURCES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to water resources are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Implementation of the Focus on Solitude Alternative would result in less land disturbing activity for construction of roads, parking lots, trails and buildings in comparisons with the No Action Alternative. This alternative was estimated to have negligible, short- term and long- term adverse construction- related effects on hydrology, water quality, and aquatic resources. Best management practices would also be used in all construction areas to control and minimize the amount and quality of runoff during construction. These measures would include type C silt fencing in slopes greater than 3%, mulching, sedimentation ponds, and use of cocoa fiber and seeding of native grasses.

During operation, visitors would continue to use the park, but would be allowed access at relatively few locations under the Focus on Solitude Alternative, resulting in a lower potential for trail overuse and increased soil erosion in comparison with the No Action Alternative. Potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing a natural resource and other management plans. New areas could be added to the park, providing additional levels of protection for water resources in the watershed. These combined actions and factors would result in a major, beneficial long-term effect on hydrology, water quality, and aquatic resources. Overall, the Focus on Solitude Alternative was therefore estimated to have a negligible, adverse long- term effect on water resources in the park.

Cumulative Impacts on Water Resources

Construction and operation of the park under the Focus on Solitude Alternative would have

negligible, long- term, adverse cumulative effects on water resources, since fewer number of new park facilities would be constructed and operated in relation to the No Action Alternative, and the emphasis of this alternative would be primarily on passive recreation. Because resource and other management plans would be developed and implemented, soil erosion from trails and other forms of visitor use would be further minimized over the long term. This would constitute a major, beneficial, long- term effect.

The cumulative effects of stormwater runoff from development outside the park on water resources inside the park would continue to increase under the Focus on Solitude Alternative. As the area surrounding the park becomes more and more developed, this problem would increase. This would constitute a major, adverse, cumulative, long- term effect that is outside the direct control of the park. This type of effect would occur under all of the alternatives, because the park is located in a rapidly developing urban area. Implementation of resource and other management plans, however, would work to help offset these effects.

The growth in the area surrounding the park has already had a major adverse effect on fishing in the Chattahoochee River, which is included within the park. This was identified as an issue during scoping of the general management plan/environmental impact statement. However, this issue cannot be addressed by the park effectively because it is largely outside of the parks' control. Fish populations and diversity in the river vary depending on the location along the corridor. The northern section below Lake Lanier is characterized by a relatively healthy fish community and is much less affected by nonpoint stormwater runoff as compared with the lower portion of park. However, during intense storms, even the northernmost sections of the river, except the area immediately below Buford Dam, are affected by runoff and sedimentation from the surrounding area. As the northern areas of the park corridor continue to grow, these effects on fish populations are expected to increase. Under the Focus on Solitude Alternative, there would be some chance for improving this situation because there would be more coordination and planning between the National Park Service and local governments to control stormwater runoff. This would be implemented as part of resource and other management plans developed by the park. However, if watershed management plans are also implemented by local governments, controls would ultimately be put in place, and the fisheries of the river would hopefully improve over the long term. Currently this is not the case, however, and the river continues to be affected by stormwater runoff.

There would be no irreversible or irretrievable commitment of the water resources of the Chattahoochee River and its tributaries under this alternative related to NPS actions.

Conclusions

The Focus on Solitude Alternative would have negligible, adverse, direct short- term and long-term effects on surface water hydrology, water quality, and aquatic resources resulting from construction and maintenance activities associated with park facilities. Negligible increases in surface runoff would also result from impervious surfaces during operation under this alternative. Implementation of resource and other management plans under this alternative would result in a major, beneficial direct and cumulative effect on water resources. The overall direct effect of this alternative on water resources in the park would therefore be negligible, adverse, and long-term.

Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including the Focus on Solitude Alternative. This would constitute a major, adverse long- term cumulative effect on water resources. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of water resources as a result of park actions under this alternative.

IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON WETLANDS AND FLOODPLAINS

Regulations and Policy

The regulations and policies that guide NPS actions with respect to wetlands and floodplains are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Limited construction (such as boardwalks, or foot bridges, boat ramps, parking lots, limited roads, or small buildings) and maintenance activities would occur under the Focus on Solitude Alternative. The extent of these activities would be less than those associated with the No Action Alternative. Direct effects of construction on wetlands and floodplains in the park under the Focus on Solitude Alternative were therefore estimated to be negligible, adverse, and long- term. Existing trails and facilities currently located in floodplains and wetlands would not be altered, other to improve them, or in some cases, eliminate them to improve conditions which would be beneficial, and long- term. New trail construction would be addressed and assessed in the form of individual tiered environmental assessments, and avoidance, minimization and compensation would be demonstrated prior to construction activity. New trail construction would be very minimal, however, and would be less than those associated with the No Action Alternative.

Fewer park facilities would be constructed and operated under the Focus on Solitude Alternative as compared with the No Action Alternative. This alternative was therefore estimated to have negligible, long- term adverse effects on wetlands or floodplains related to operation of park facilities. Existing levels of protection of wetlands and floodplains would also be improved through development and implementation of resource and other management plans. Where erosion occurs along informal, or social trails or overused areas, these conditions would be improved over time due to implementation of resource and other management plans. Some new park areas could be also added that could include several small wetlands and floodplains or a larger wetland/floodplain areas at a single location. All of these factors would result in moderate long- term beneficial effects on wetlands or floodplains as they are protected.

Cumulative Impacts on Wetlands and Floodplains

Negligible, long- term, adverse cumulative effects on wetlands and floodplains inside the park would result from construction and operation of park facilities under the Focus on Solitude Alternative, since this alternative would involve only limited construction and maintenance. Floodplains and wetlands throughout the park would continue to be protected from direct disturbance from construction projects through required environmental assessments tiered to the general management plan/environmental impact statement. Application of best management practices would help reduce risk to floodplain and wetland resources from polluted stormwater runoff, erosion, filling activities, or sedimentation from sources within the park. In addition, restoration of wetland and floodplain resources would be more likely to occur under this alternative than the No Action Alternative, providing major, long- term, beneficial effects

During operation, this alternative would result in moderate, beneficial long- term effects on wetlands and floodplains as a result of development implementation of resource and other management plans. These would lead to improved management of visitor access to wetlands and floodplains and control of erosion along trails and other areas.

Wetlands and floodplains located within the park would continue to be affected by sediments and water transported via runoff during high storm water discharges originating from developed areas outside the park. This would constitute a long-term, major adverse cumulative effect. This effect would be the same for all of the alternatives.

There would be no irreversible or irretrievable commitment of wetland and floodplain resources with this alternative.

Conclusions

Implementation of the Focus on Solitude Alternative would result in negligible, adverse long- term effects on wetlands and floodplains, since the amount of facility construction and operation would be very limited, as compared to the No Action Alternative. Restoration of wetland and floodplain resources would be more likely to occur under this alternative compared to the No Action Alternative, providing major, long- term beneficial effects. Cumulative impacts from storm water runoff originating in developed areas outside the park would be expected to cause major, long-term adverse impacts on wetlands and floodplains, however, due to erosion and sedimentation during major storm events.

There would be no impairment of wetlands and floodplains as a result of park actions under this alternative.

IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON RARE, THREATENED AND ENDANGERED SPECIES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to water resources are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Since less land would be disturbed under the Focus on Solitude Alternative, the potential effect of construction activities of this alternative on rare, threatened and endangered species would be expected to be somewhat less than the No Action Alternative. Some fragmentation of terrestrial habitat would occur, but because the number of projects would be less than that which would occur under the No Action Alternative, this direct effect would be minor. Under the Focus on Solitude Alternative, any construction project would require a National Environmental Policy Act environmental assessment that would include rare, threatened, and endangered species surveys, consideration of alternatives, and assessments of impacts. Therefore, impacts would be avoided or minimized to the greatest extent possible. The effects of this alternative on protected species were therefore estimated to be negligible, adverse, and long- term. In addition, under the Focus on Solitude Alternative, natural resource and other management plans would be developed and implemented, which would be beneficial to protected species. It would also be possible to acquire additional park areas. Both of these factors would result in a moderate, long- term beneficial effect on protected species.

The location of numerous protected species of plants and animals in the park is known and documented by the Georgia Department of Natural Resources/Wildlife Resources Division surveys, as well as other surveys. Definitive and detailed park- wide surveys have yet to conducted by the park, however. Under this alternative, such surveys would be completed as part of implementation of a park- wide resource management plan.

During operation of the park, rare, threatened and endangered species would receive an increase level of protection under the Focus on Solitude Alternative in comparison with the No Action Alternative. New areas could be added to the park under the Focus on Solitude Alternative, and natural resource and other management plans would be prepared, which could result in long-term habitat improvements and expansions. These factors would result in moderate, long- term beneficial effects on protected species and their habitat. Since the number of new facilities operated under this alternative would be minimal, operations of the park would have negligible, adverse, long- term direct effects on protected species.

There would be no irretrievable or irreversible commitment of resources as a result of implementation of this alternative.

Cumulative Impacts on Rare, Threatened and Endangered Species

The cumulative effects of park construction and operation activities under the Focus on Solitude Alternative on rare, threatened and endangered

species within the park would be negligible, adverse, and long- term, since construction would be more limited in comparison with the No Action Alternative, and tiered environmental assessments would be conducted for each proposed project. There is also a potential for long- term improvement of habitat for protected species under the Focus on Solitude Alternative due to increased levels of restoration efforts as compared to No Action, and since natural and other management plans would be developed and implemented. This would help minimize the potential for exotic species to invade, and for habitats to be further improved and protected from increased visitor use. The park's rare, threatened and endangered species would continue to benefit from the protection the park affords. This would constitute a moderate, beneficial, long- term effect.

There would be no irreversible or irretrievable commitment of rare, threatened and endangered species or related habitat resources with this alternative.

Conclusions

Implementation of the Focus on Solitude Alternative would result in negligible, long- term, adverse direct and cumulative effects on rare, threatened and endangered species, since the number of new facilities to be constructed and operated would be very limited in comparison with the No Action Alternative, and resource and other management plans would be developed and implemented. Efforts to document and protect rare, threatened and endangered species populations currently present in the park would continue to be maintained and potentially expanded. New areas could also be added to the park and these could contain protected species and habitat that would be protected. This would constitute a moderate overall long- term beneficial effect.

There would be no impairment of rare, threatened and endangered species habitats or values as a result of park actions under this alternative.

IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON TERRESTRIAL ECOLOGICAL RESOURCES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to terrestrial ecological resources are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

The Focus on Solitude Alternative would have a lower relative potential to adversely affect terrestrial ecological resources within the park in comparison with the No Action Alternative since the Focus on Solitude Alternative would involve fewer construction related activities. Some fragmentation of terrestrial habitat would occur, but because the number of new facilities would be few and in limited areas, this direct effect would be negligible under the Focus on Solitude Alternative. Prior to implementation of proposed actions, such as trail construction, the National Park Service would conduct a detailed site- specific survey of the terrestrial vegetation at the project site as part of a tiered environmental assessment. The type, extent, and ecological values of terrestrial habitats at each proposed site would be evaluated and the impacts of the proposed project would be assessed. This information would be used to make a decision regarding the feasibility of the proposed site for construction. Implementation of best management practices along with institution of standardized trail construction methods (following the requirements of an integrated trails system plan) would mitigate potentially adverse impacts. Construction activities associated with park facilities would have a negligible, adverse, long- term, direct effect on terrestrial resources in the park as a result.

During operation, the Focus on Solitude Alternative would have a lower potential for impacting terrestrial habitats in comparison with the No Action Alternative since this alternative would involve a lower number of new facilities and would emphasize more passive forms of recreation and visitor use. This alternative would therefore have negligible, adverse and long- term direct

effects on terrestrial ecological resources. This alternative would provide for restoration of terrestrial resources, thereby improving existing conditions, which would result in a moderate, beneficial, long- term effects. An increase in research and education efforts compared to the No Action Alternative would also provide additional protection of resources by communicating protective measures that could be used by visitors to avoid or minimize impacts to terrestrial ecological resources. This would be a moderate, beneficial long- term effect. Implementation of resources and other management plans including an integrated trails system plan under the Focus on Solitude Alternative would have a moderate, beneficial, long- term, direct effect on terrestrial ecological resources in the park. For example, the plan would include measures to restore degraded habitats and means to control invasive species such as privet and English Ivy.

Cumulative Impacts on Terrestrial Ecological Resources

The Focus on Solitude Alternative would have negligible short- or long- term, adverse cumulative impacts on terrestrial ecological resources because of the limited land disturbance that would be involved under this alternative. Increased levels of effort concerning other management, restoration, education, research and other agency coordination would result in moderate, long- term, beneficial effects on terrestrial ecological resources in the park.

Ongoing urbanization in the Atlanta region would continue to eliminate forest and wildlife species in areas surrounding the park. Park management practices associated with the Focus on Solitude would have little effect on these events. Improved education, research and coordination elements of this alternative could provide moderate, beneficial cumulative effects, as increased awareness of these resources could generate interest in their protection outside the park as well.

There would be no irretrievable or irreversible commitment of terrestrial ecological resources under this alternative.

Conclusions

The Focus on Solitude Alternative would have negligible, adverse, direct and cumulative impacts on terrestrial ecological resources because of the limited land disturbance and more passive forms of visitor use that would occur under this alternative as compared to the No Action Alternative. Tiered environmental assessments would also be required prior to selecting a site for a project, and impacts could be avoided or minimized. Development and implementation of a resource and other management plans, and increased research, education, coordination, and staffing levels would have moderate, long- term beneficial effects on these resources in the park.

There would be no impairment of terrestrial ecological resources as a result of park actions under this alternative.

IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON PRIME AND UNIQUE FARMLANDS

Regulations and Policy

The regulations and policies that guide National Park Service actions with respect to prime and unique farmlands are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Since no new facilities would be proposed in newly acquired areas, prime and unique farmlands would not be effected b y construction related activities. Proposed NPS projects in the park could impact known prime and unique farmlands, all of which are located north of McGinnis Ferry Road. The Focus on Solitude Alternative would have a lower potential to impact these types of soils in comparison with the No Action Alternative since this alternative would a smaller amount of construction, maintenance and operation activities. The amount of soil disturbance would be slightly less than the No Action Alternative. The overall effect of the limited construction activities completed under Focus on Solitude Alternative on

prime and unique farmland would be negligible, adverse and long- term. Soil erosion would also be minimized in the vicinity of these soils types since best management practices would be instituted. The potential effects of park operation on prime and unique farmlands under the Focus on Solitude Alternative would also be negligible, adverse and long- term, since visitor activities would be primarily passive, and limited to a very small area. Should a project be proposed that would affect a prime and unique farmland in the future, a site specific environmental assessment would be completed, and potential impacts would be further addressed.

Cumulative Impacts on Prime and Unique Farmlands

The cumulative adverse effects of the construction, maintenance and operation activities within the park on prime and unique farmlands under the Focus on Solitude Alternative would be negligible, and long- term since this alternative would involve very limited construction and maintenance in the park. Should a project be proposed that would affect a prime and unique farmland in the future, a site specific environmental assessment would be completed, and the impacts would be addressed. Resource, trail, and other management plans would also be developed and implemented, which would allow for avoidance of potentially adverse impacts on prime and unique farmlands.

In contrast, the cumulative effects of development in the area surrounding the park on prime and unique farmlands would be moderate, adverse and long- term, since there would be a potential for increased soil erosion that could have adverse effects on park resources. These effects cannot be controlled by the park, but would controlled largely by the watershed management programs that should be implemented by the surrounding counties in the future.

There would be no irretrievable or irreversible commitment of prime and unique farmlands under this alternative.

Conclusions

The No Action Alternative would have negligible adverse direct long- term impacts on prime and unique farmlands, since the amount of construction proposed within the park would be limited, and tiered site- specific environmental assessments would identify such resources and avoid impacting them. This alternative would have moderate, adverse, long- term cumulative impacts on prime and unique farmlands, as a result of growth in the area surrounding the park.

There would be no impairment of prime and unique farmlands as a result of park actions under this alternative.

IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON CULTURAL RESOURCES

This section describes the methods used, analysis of effects conducted and conclusions drawn for archeological resources and historic buildings, structures and objectives.

IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON ARCHEOLOGICAL RESOURCES

Regulations and Policy

The regulations and policies that guide nps actions with respect to archeological resources are presented in the “Servicewide Mandates and Policies” section of this document.

Analysis

As discussed in the “Affected Environment” section, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Any ground- disturbing activities associated with the Focus on Solitude Alternative would therefore have the potential to adversely affect such sites.

Until a National Register of Historic Places evaluation for any site was completed, it would be assumed that the site is eligible for listing on the register. Therefore, until proven otherwise,

disturbance to any archaeological site that was discovered during the survey, design, or construction of any facilities under Focus on Solitude Alternative would be considered a major, direct, adverse, long- term effect. Because the Focus on Solitude Alternative includes less construction- related activities than the No Action Alternative and the establishment of a greater number of cultural resource zones, however, it has a lower potential for construction- related adverse effects to archaeological resources. For purposes of this general management plan/environmental impact statement, therefore, the overall direct effect of the Focus on Solitude Alternative on archeological resources was estimated to be minor, adverse and long- term.

As described in the section entitled "Servicewide Mandates and Policies," the National Park Service is required to protect archaeological resources within the park. Therefore, prior to undertaking any construction activities under the Focus on Solitude Alternative, the National Park Service would conduct a tiered National Environmental Policy Act environmental assessment and,

- Conduct cultural resources surveys of areas to be disturbed, including trail alignments
- Identify all archaeological resources that are discovered during the surveys
- Systematically inventory each site to determine and document its significance to support its evaluation for National Register of Historic Places eligibility
- Determine eligibility in concert with the Georgia State Historic Preservation Officer and Advisory Council on Historic Preservation
- Relocate any facilities that would disturb National Register of Historic Places- eligible sites

The collection of data to support the eligibility evaluation, and the determination of eligibility can be time consuming. Therefore, as a timesaving approach, the National Park Service would assume that any archaeological site that is discovered is eligible for listing, and would relocate the project to be constructed to avoid that site. This approach would substantially reduce the potential for construction- related adverse effects to archaeological resources.

Under any alternative, the integrity of some sites would be degraded by natural processes such as wind and water erosion, or by vandalism or inadvertent damage by visitors. By establishing a greater number of cultural resource zones compared to the No Action Alternative, and by increasing monitoring, numbers of rangers, and education programs, the Focus on Solitude Alternative provides greater protection and monitoring of the archaeological resources within the park in comparison with the No Action Alternative. In addition, because the goal of the Focus on Solitude Alternative is to return areas back to a more natural state and minimize facilitated recreational opportunities, archaeological sites located outside of the cultural resource zones would potentially be more protected from degradation and potential erosion, or vandalism under the Focus on Solitude Alternative as compared with the No Action Alternative. The Focus on Solitude Alternative is estimated to provide moderate, long- term beneficial effects on archeological resources.

Cumulative Impacts

During construction, the Focus on Solitude Alternative has a potential to impact archeological resources at virtually any site that is cleared. The cumulative adverse effects of all construction activities under this alternative within the park would be less than under the No Action Alternative. For purposes of this general management plan/environmental impact statement, the overall cumulative impact of construction activities under the Focus on Solitude Alternative on archeological resources was therefore estimated to be minor, adverse and long-term.

Prior to undertaking any construction activity, the National Environmental Policy Act requires completion of an archeological survey and an estimate of potential adverse impacts. Adherence to these procedures could assure that the construction activities would not cause adverse cumulative impacts on archeological resources in

the park. In addition, a resource management plan and a collections management plan would be prepared and implemented under this alternative that would be designed to preserve and protect these resources. This would constitute a major, long- term beneficial cumulative effect on archeological resources.

During operation, archeological resources could be impacted by human disturbance. Taken together over the length of the park, these cumulative effects could be adverse if not managed adequately. In comparison to the No Action Alternative, the Focus of Solitude Alternative has a lower potential for this to occur, however, since the level of visitor use and construction activities within the park would be least under the Focus on Solitude Alternative. A cultural resources management plan and a collections management plan designed to preserve and protect archeological resources would also be implemented under this alternative. For purposes of this general management plan/environmental impact statement, the overall cumulative impact of operation under the Focus on Solitude Alternative on archeological resources was therefore estimated to be minor, adverse and long-term.

Where sites were disturbed, such as the discovery of a site during construction, data recovery and preservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archaeological resources.

Conclusions

Archaeological resources in most of the metropolitan Atlanta area have been previously disturbed or eliminated by as a result of historical land clearing practices, development and urban sprawl. Therefore, improvements to, and preservation of, archaeological sites within the park is important on a regional level, as these resources represent former conditions throughout the area. The identification and systematic inventory of archaeological resources in the cultural resource zones during the implementation of the Focus on Solitude Alternative offers an opportunity to add to the knowledge of the prehistory and history of both the park and the entire vicinity.

The Focus on Solitude Alternative implements management programs that would minimize construction and facilitated experiences in the park, and highlights inventory, preservation and maintenance of archaeological sites within ten cultural resource zones. As such, the Focus on Solitude Alternative has a lower potential for construction- related impacts to the various cultural resources present with the park in comparison with the No Action Alternative and a greater potential for inventory, preservation, and protection of that subset of archaeological sites that falls within the acreage designated for the cultural resource zones. Survey, identification, and avoidance measures that would be implemented prior to construction would avoid most or all of the adverse effects. Because the Focus on Solitude Alternative would re- establish natural conditions in much of the park, the potential for degradation and visitor- related impacts would be lower than under the No Action Alternative. The Focus on Solitude Alternative has a much lower potential to adversely impact archeological resources as compared with the No Action Alternative. A cultural resources management plan and a collections management plan would be developed and implemented, and additional survey work would be completed under the Focus on Solitude Alternative. The overall potential direct and cumulative effect of this alternative on archeological resources was therefore estimated to be minor, adverse and long- term.

IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON HISTORIC BUILDINGS, STRUCTURES AND OBJECTS

Regulations and Policy

The regulations and policies that guide NPS actions with respect to historic buildings, structures and objects are presented in the “Servicewide Mandates and Policies” section of this document.

Analysis

Ten cultural resource zones would be established under the Focus on Solitude Alternative, as compared to none under the No Action Alternative. The ten cultural resource zones

encompass the majority of the National Register of Historic Places- listed or National Register of Historic Places- eligible historic buildings, structures and objects identified to date in the park. As a result, implementation of the Focus on Solitude Alternative would result in greater protection of these types of cultural resources in the park than would be expected under the No Action Alternative during both construction and operation. In comparison with the No Action Alternative, the Focus on Solitude Alternative has a greater potential to protect and preserve historic buildings, structures and objects since these resources would be managed according to a cultural resources management plan and increased monitoring, education and numbers of park rangers would be proposed. This alternative is therefore estimated to have a major, beneficial long- term effect on historic resources.

Similarly, because cultural resources and in cultural resource zones are documented and interpreted, the implementation of the Focus on Solitude Alternative has a greater potential for preservation and interpretation of historic buildings, structures and objects in comparison with the No Action Alternative. This would constitute a major beneficial long- term effect.

The Focus on Solitude Alternative has a potential to affect archeological resources, however, and minor impacts are possible. The overall potential direct and cumulative effect of this alternative on historic buildings, structures and objects was therefore estimated to be minor, adverse and long-term.

Cumulative Impacts

In comparison with the No Action Alternative, the Focus on Solitude Alternative would have a lower potential to result in adverse cumulative effects on historic buildings, structures and objects because the extent of construction activities would be the more limited. Land clearing activities would be limited, and all construction would have to adhere to the requirements of the resource management plan. Cumulative adverse impacts would be reduced or avoided as a result of increased monitoring, education and an increase in park staff compared to the No Action Alternative. This alternative was therefore estimated to have minor, adverse, long- term cumulative effects on historic buildings, structures and objects.

Where resources were disturbed, such as discovering a site during construction, data recovery and preservation efforts would mitigate impacts. However, the disturbance would result in some irreversible and irretrievable loss of cultural resources, which is common to all alternatives.

Conclusions

The park contains a variety of historic buildings, structures and objects that are significant to the historical development of the Chattahoochee River corridor in the greater Atlanta area. Some of these resources are among the last remaining examples of their construction types in the region. The Focus on Solitude Alternative is estimated to have minor, adverse, long- term effects on historic buildings, structures and objects in the park, since some areas could be impacted during construction and operation of park facilities. However, implementation of this alternative would have a simultaneous beneficial effect on preservation of historic buildings, structures and objects in the park. Protection and rehabilitation of these resources would therefore ultimately have a major beneficial effect in preserving them for the future. This would be accomplished through protection efforts in cultural resource zones, development and implementation of a resource management plan, collections management plan, and increased monitoring, education and staff levels.

Under the Focus of Solitude Alternative, the historic buildings, structures and objects in the park would also be afforded enhanced protection and preservation treatment through the development and implementation of systematic integrated inventory, research, and preservation programs in the ten cultural resource zones. Rehabilitation of historic structures would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance with park resource values.

IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON TRANSPORTATION

Regulations and Policy

The regulations and policies that guide NPS actions with respect to transportation resources are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Under the Focus on Solitude Alternative, approximately 32 percent of the park would be designated as developed, natural area recreation, and cultural resource zones, and approximately 68% of the park would be designated as either pristine river zones or natural area recreation zones. However, motorized vehicle patterns in the park would continue to exhibit patterns and problems similar to those described for the No Action Alternative, since there is little the park can do to influence traffic patterns in the surrounding Atlanta Metropolitan area. Effects on automobile traffic on some street segments would range from minor to moderate under the Focus on Solitude Alternative (Table 30). Motorized vehicle congestion would continue to occur in the southern portion of the park, and in the future, in the northern areas of the park as these portions of the region continue to develop. The majority of accessible areas would also continue to be located in the southern portion of the park, in close proximity to the higher population densities of the park corridor. This would facilitate bicycle and pedestrian access to the park, and would reduce travel distances for vehicle trips. Minor to moderate incidences of congested roadway facilities in close proximity to the southern portion of the park would add to traffic congestion in these areas under the Focus on Solitude Alternative (Table 30). The overall direct effect of the Focus on Solitude Alternative on transportation features in the park was therefore defined as moderate, adverse and long- term.

A number of the roadways that could be affected by increased activity at various areas of the park are either scheduled for improvement in the near future or are planned for improvement by 2025. In certain areas, roadways that are currently congested are not planned for improvement. However, alternate facilities are planned in other specific areas, for example, the Morgan Falls Bridge, that could help to relieve congestion in that area. In general, the effect of the Focus on Solitude Alternative would produce moderate, adverse impacts on transportation in the majority of cases.

The Focus on Solitude Alternative would have a negligible, adverse, long- term effect on paved and unpaved trails in the park, since fewer new trails would be constructed. In addition, an integrated trails system plan would be developed and implemented, which would result in a major, beneficial, long- term direct effect on the trail system and associated visitor experience. Trails in areas that are currently being overused could be phased out and managed effectively under the plan. Use of informal trails in the park would decrease over time as the integrated trail system plan is implemented. The overall visitor experience would be greatly improved, since trails would be properly designed and maintained under the plan.

An integrated trails system plan would be developed and implemented under the Focus on Solitude Alternative, and efforts to increase connectivity with trails systems being developed in the area surrounding the park by local governments would be greatly increased. This would constitute a major, beneficial, long- term direct effect on the ability to develop improved connectivity with the surrounding communities.

The primary form of non- motorized transportation in the park is the bicycle. The Focus on Solitude Alternative would have a moderate, adverse long- term influence on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be the most limited under this alternative. The fewest number of bicycle trails would be available under this alternative since the Focus on Solitude Alternative emphasizes passive forms of recreation. An integrated trails system plan would also be developed and implemented under the Focus on Solitude Alternative, but the use of bicycles in the park would be minimal under the Focus on Solitude Alternative.

The Focus on Solitude Alternative would result in a lower amount of bicycle use than bicycle use associated with the No Action Alternative. The Focus on Solitude Alternative would therefore have a negligible, adverse, long- term effect on erosion and water quality degradation related to bicycle use. An integrated trails system plan would also be developed and implemented, and erosion associated with off- road bicycle use would decrease over current levels in the park. This would constitute a moderate, beneficial, long- term effect.

Cumulative Impacts

Regional growth in the counties in the metropolitan Atlanta area is the primary reason for the projected increases in traffic volumes around the park. No matter which management actions are taken in the park, traffic in the region is expected to continue to increase in the future. The cumulative effects of the Focus on Solitude Alternative on transportation in the park and on the surrounding region would be moderate, adverse and long- term, based on the data presented in Table 30. Areas currently experiencing congestion would be expected to continue to do so in the future if planned improvements do not take place.

Under the Focus on Solitude Alternative, the cumulative amount of use of paved and unpaved trails would be lower than any of the other alternatives. The cumulative effect of the Focus on Solitude Alternative on the use of paved and unpaved trails was therefore estimated to be negligible, adverse, and long- term. Paved and unpaved trails throughout the park would be managed under an integrated trails system plan. This would constitute a moderate, beneficial, cumulative long- term effect, since these effects would extend throughout the park.

An integrated trails system plan would be developed and implemented under the Focus on Solitude Alternative, and efforts to increase connectivity with trails systems developed in the area surrounding the park by local governments would be increased throughout the park as a result. This would constitute a major, beneficial, long- term, cumulative effect.

The Focus on Solitude Alternative would have a moderate, adverse cumulative long- term influence on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles (at least off- road bicycles) would be the most limited under this alternative.

The cumulative effect of off- road bicycle use on water quality and soil erosion would be negligible, adverse and long- term, since the total amount of bicycle use would be lower than any of the other action alternatives, including the No Action Alternative. Any potential cumulative effects of bicycle use on water quality would be expected to be reduced over time, since off- road bicycle use in the park would be highly restricted, and an integrated other management plan would be implemented.

There would be no irreversible commitment of resources associated with transportation with this alternative. Limited amounts of nonrenewable resources would be used for maintenance of roadways and paved trails, including energy and materials. These resources would be irretrievable once they were committed. There would be no irreversible commitment of resources.

Conclusions

Transportation and traffic problems in the park and surrounding area would continue to increase under any of the alternatives, since traffic and transportation patterns and characteristics are largely controlled by factors outside the park's influence. The Focus on Solitude Alternative would have overall moderate, adverse, long- term direct and cumulative adverse effects on transportation and traffic in the park and surrounding area, due to traffic congestion. These effects would be similar to those of the No Action Alternative.

The Focus on Solitude Alternative would have negligible, long- term direct and cumulative adverse impacts on paved and unpaved trails in the park, since fewer new trails would be constructed in comparison with the No Action Alternative. An integrated trails system plan would be completed, and efforts to improve existing trails would be greatly improved under this alternative. This would

result in moderate, beneficial, long- term direct and cumulative effects.

The Focus on Solitude Alternative would result in less bicycle use in comparison with the No Action Alternative. The Focus on Solitude Alternative would therefore have negligible, adverse long- term direct and cumulative effects on erosion and water quality degradation related to bicycle use. An integrated trails system plan would also be developed and implemented, and erosion associated with off- road bicycle use would decrease over current levels in the park. This would result in moderate, beneficial, long- term direct and cumulative effects on water quality and terrestrial resources in the park.

IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON VISITOR AND COMMUNITY VALUES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to visitor and community values are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Visitor Experience — Approximately 49% of the park would be identified as an urban primitive zone under the Focus on Solitude Alternative. An additional 19% of the park would be designated as pristine river zone in which mechanized forms of recreation would not be deemed appropriate, and only unpaved trails located away from the river would be allowed. Under this alternative, approximately 68% of the park would be designated either as a pristine river zone or an urban primitive zone with very limited facilities and no new facilities to be located in newly acquired parcels. These areas would provide a relatively high level of opportunity for visitors to experience isolation, a feeling of closeness to nature, and solitude and tranquility. The variety of visitor experiences would be lowest under this alternative, with most opportunities focusing on passive activities. Approximately 32% of the park acreage would be designated as developed, natural area recreation, or cultural resource zones, with the least amount of land (20%) would be designated as natural area recreation zone as compared to other alternatives. This alternative would provide visitors with a moderate degree of challenge and risk with respect to outdoor activities, and would require moderate to high knowledge of outdoor recreation skills. Compared to the No Action Alternative, there would be increased education opportunities and ranger contact. Increased research opportunities would also be provided as well as opportunities for the park to coordinate with local agencies for monitoring and protection of park resources. This alternative would allow visitors to experience fewer encounters with other people while in the park compared to the No Action Alternative. The Focus on Solitude Alternative would have a major beneficial, long- term, direct effect on visitors who value solitude and isolation, but it would also have a major adverse long- term direct effect on visitors who value more active types of recreation and park use.

Recreational Opportunity - In comparison with the No Action Alternative and the other action alternatives, the Focus on Solitude Alternative would provide visitors with a higher relative opportunity to achieve solitude and isolation and the lowest potential to experience more active forms of recreation. Approximately 68% of the park would be zoned to emphasize the experience of isolation and solitude under this alternative. As a result, this alternative would provide a greater relative opportunity for nature photography, wildlife observation, and similar types of visitor experiences. The Focus on Solitude Alternative would also provide the pristine river zone, which would provide opportunities for enjoying non-motorized, relatively quiet stretches of the river. In the pristine river zone, trails would not be developed along the riverbank, but would be placed farther inland and away from the river. This zone is designed to provide for river- based forms of recreation. This type of zone does not currently exist and would not be provided under the No Action Alternative. Those that prefer to use motorized watercraft on the river in areas designated pristine river zones would be directed to other zones along the river. This would constitute moderate, adverse, long- term, direct effect on those visitors, yet would constitute a

long- term, beneficial, effect to visitors desiring a relatively quite river experience. Development and implementation of resource management plans as well as other management plans would benefit visitors in terms of defined preservation and protection measures that would enhance the visitor's recreational experience over the long-term. This alternative would have a major beneficial long- term effect on visitors who value solitude and isolation as forms of recreation, but it would have a long- term, major adverse effect on visitors who value more active forms of recreation and park use.

Numbers and Types of Visitor Facilities — The Focus on Solitude Alternative would result in the construction and operation of fewer new visitor facilities in the park compared to the No Action Alternative. Visitors would rely on more passive forms of recreation such as experiencing serenity and peace of mind, wildlife viewing, and walking and observing nature. Visitors would be provided primarily with unpaved trails. Visitors seeking river experiences would have access for rafts, canoes, and boats at locations distributed strategically along the 48- mile park corridor. No roads, parking lots, administrative facilities or other buildings or bridges would be allowed in the urban primitive or pristine river zones under this alternative. No new facilities would be constructed in the newly acquired parcels. Some areas could become crowded, which could affect the quality of the visitor experience. For example, boating, hiking or fishing in high- use areas could become a more social rather than a solitary experience. Crowded conditions could worsen as competition grows for facilities. Increased levels in park staffing, providing additional rangers to give out information, provide educational programs, and monitor the park's resources could offset the potential for this to happen.

Traditional Character— The traditional character of the park would be maintained under the Focus on Solitude Alternative as compared to the No Action Alternative, through changes in management policy, to include development and implementation of resource and other management plans. The Focus on Solitude Alternative provides opportunities for increased contact with the visitors, and education programs designed to improve the visitor's understanding and appreciation of the natural and cultural resources in the park. This alternative would therefore allow for improved management and protection of park resources. Visitors would continue to have access to a variety of established recreational activities described in the "Affected Environment" section. Increased staff levels would also provide an opportunity to increase the level of agency coordination to help protect park resources from adverse effects to the watershed. Since it is assumed that park managers would have additional resources to effectively identify and manage degradation of natural and cultural resources, the Focus on Solitude Alternative would have a major, beneficial long- term direct effect on traditional character and experiences in the park.

Under the Focus on Solitude Alternative, none of the proposed park actions would cause conflicts with land use plans, policies, or controls. New park land acquisitions could occur under this alternative, but these additions would be agreed to by the willing land owners (sellers) and the National Park Service. In addition, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls in the surrounding areas.

Cumulative Impacts

Growth in the surrounding area is expected to result in an increased demand for a variety of visitor experiences as compared with current visitor uses. Although the park would still be used as a means of seeking solitude and isolation for enjoyment of scenery and other passive forms of visitor experience, there would be pressure to change this as the area surrounding the park grows. This would result in a major, adverse, long- term, cumulative effect on visitors seeking a more passive experience. This alternative would therefore have a limited ability to accommodate visitors seeking more active experiences. These adverse cumulative effects would be offset, however, by major, beneficial, long- term cumulative effects of implementing expanded education and outreach programs and resource and other management plans in the park. This would help maintain the

uses prescribed under the Focus on Solitude Alternative.

Growth in the surrounding area would cause increased pressure on the park to provide more active forms of recreation, but this would be limited under the Focus on Solitude Alternative. This alternative would not be able to accommodate the anticipated cumulative increase in the number of visitors seeking more active more varied forms of recreation. The cumulative effects of growth in the area would therefore result in a major, adverse, cumulative effect on the ability of visitors to enjoy active forms of recreation in the park. Implementation of resource and other management plans would offset these types of cumulative effects, however. This would constitute a major, beneficial effect on recreational opportunities.

Growth in the surrounding area would have a major, adverse, cumulative effect on the ability of park management to repair and maintain facilities. Pressure to build more new facilities of different types would also increase as growth in the area around the park increases. This would constitute a major, adverse, long- term cumulative effect on park facilities, since few new facilities would be constructed under the Focus on Solitude Alternative.

Growth in the surrounding area would have a major, adverse, long- term, cumulative effect on the traditional character of the park, as pressure for more active and varied forms of recreation increase, and levels of encroachment around the boundaries of the park increase. Implementation of increased numbers and varieties of education and outreach programs and resource and other management plans, however, would offset some of these potential cumulative effects of growth on traditional character. These programs and plans would result in major, beneficial, long- term cumulative effects on the traditional character of the park.

Conclusions

The Focus on Solitude Alternative would result in construction of fewer facilities than the No Action Alternative. Visitor experiences such as serenity, wildlife observation, solitude, and observing nature's beauty would be enhanced to the greatest degree under this alternative. The maximum amount of pristine river and urban primitive zones in the park would be available to visitors under this alternative. Visitor encounter rates would be relatively low. This alternative would therefore have major, beneficial, long- term direct and cumulative effects on visitor and community values. However, as the area surrounding the park develops, this experience would be increasingly difficult to obtain, and adverse direct and cumulative, long- term effects on visitor and community values could result. Effective management plans and coordination with local governments would be the key to the successful implementation of this alternative. Overall, this alternative would result in major, long- term beneficial direct and cumulative effects on visitors who value solitude and isolation, and a major long-term adverse direct and cumulative effect on visitors who value more varied, active recreational experiences and supportive facilities.

SUSTAINABILITY AND LONG- TERM MANAGEMENT

The National Environmental Policy Act (sec. 101 (b)) and the National Park Service Organic Act require an assessment of the potential of each alternative to produce long- term impacts and of foreclosing future options that are available to the National Park Service with regard to managing each park. An alternative is required to allow for sustainable development, which is defined as an action that meets the needs of the present without compromising the ability of future generations to meet their needs (*World Commission on Environment and Development* in National Park Service 2001a). This section addresses the following three components of the sustainability assessment.

The Relationship Between Local Short- Term Uses Of The Environment And The Maintenance And Enhancement Of Long- Term Productivity - National Environmental Policy Act Sec. 102 (c) (iv))

Existing problems related to growth in the surrounding urban and suburban area and

watershed are likely to continue with the growth in population, putting additional pressures on the natural and cultural resources in the park. As demand for recreation in the park grows, the long-term protection and enjoyment of park resources could be jeopardized. Despite implementation of a management strategy to provide more comprehensive protection of cultural and natural resources, there would likely continue to be instances where resources are disturbed by visitors exploring these sites. These impacts would be avoidable only if human use were not allowed in the park. Mitigation measures would be taken where possible to reduce these impacts. Improving the management of natural and cultural resources, along with enhancing research and education activities within the park, would contribute to the long- term protection and preservation of resources. Increased coordination with local agencies and other agency cooperative initiatives for resource and use management would further enhance resource protection and preservation.

Any Irreversible Or Irretrievable Commitments Of Resources That Would Be Involved If The Alternative Were Implemented - National Environmental Policy Act (sec. 102(c) (v))

The National Environmental Policy Act and the National Park Service define irreversible impacts as those effects that cannot be changed over the long term or are permanent (National Park Service 2001a). An effect to a resource is irreversible if the resource cannot be reclaimed, restored, or otherwise returned to its condition before the disturbance. An irretrievable commitment of resources refers to the effects to resources that, once gone, cannot be replaced. There would be a potential for irreversible or irretrievable commitments of cultural resources under the Focus on Solitude Alternative. The implementation of a management strategy to provide comprehensive protection of cultural resources along with other natural resource protection measures would further reduce but not entirely eliminate the risk that visitors might disturb resources. In addition, limited amounts of nonrenewable resources would be used for construction projects and park operations, including energy and materials. These resources would be irretrievable once they were committed.

Any Adverse Impacts That Could Not Be Avoided If The Action Were Implemented – National Environmental Policy Act (sec. 101(c) (ii))

The National Environmental Policy Act and the National Park Service define adverse impacts as those that cannot be fully mitigated or avoided. Where construction activities disturbed cultural resource sites, data recovery and conservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archeological resources. There would be unavoidable adverse impacts on natural and cultural resources under the Focus on Solitude Alternative as a result of the increasing development outside the park. With limited resources, these would tax the park staff's ability to effectively carry out resource protection measures. Mitigation measures would be taken, where resources allow, to reduce these impacts. An increase in visitation would have the potential to reduce access to some activities and areas during peak visitation periods because few additional facilities would be provided under the Focus on Solitude Alternative. This could result in minor to moderate adverse impacts on visitor experience and community values. In addition to the above unavoidable impacts, staff increases would require additional operational funding.

ENVIRONMENTAL IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE

IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON NATURAL RESOURCES

Natural resources impact topics include air quality, water resources, wetlands and floodplains, rare, threatened and endangered species, terrestrial ecological resources and prime and unique farmlands. Analytical methods are provided under the No Action Alternative. Impact analyses and cumulative impact assessments and conclusions are described for each impact topic.

IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON AIR QUALITY

Regulations and Policy

The regulations and policies that guide NPS actions with respect to air quality are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Under the Centralized Access Alternative, an intermediate number of new park facilities (roads, parking lots, restrooms) would be constructed in developed zones and at up to three hubs. The Centralized Access Alternative would involve a level of construction activity that would be greater than the No Action Alternative, and would produce intermediate volumes of construction-related air emissions. Construction activities would result in negligible increases in vehicle emissions and increased fugitive dust from developed sites, however, because of the limited levels of construction, these changes would constitute negligible, adverse, short- term impacts on air quality and natural resources.

Under the Centralized Access Alternative, an intermediate number of new park facilities would be constructed and operated in developed zones and at hubs. Emissions generated by park visitor vehicles would be higher than those produced under the No Action Alternative. This alternative would therefore be characterized by an intermediate potential for increasing air emissions in the vicinity of the park related to increased vehicular traffic in the park during the operations phase. The operation phase would nevertheless have negligible long- term impacts on air quality because of the limited numbers of new facilities being operated under this alternative.

Cumulative Impacts

The combined effect of construction and operation of new park facilities under this alternative would have a negligible, adverse, long- term effect on air quality because the total volume of these emissions would be extremely small in comparison with the amount of air emissions produced in the surrounding area.

As traffic volumes increase in the metropolitan Atlanta area, air quality- related impacts on park resources and visitor experience could occur for this alternative. The Atlanta region is currently not meeting the air quality standards for ozone, which already affects the park. As regional traffic congestion continues to grow in the future, degraded air quality could impact park resources in as yet unidentified ways. Visitors to the park would experience similar effects inside or outside the park due to regional conditions. These would constitute a moderate, adverse, long- term cumulative effect on air quality.

There would not be any irretrievable or irreversible commitment of air quality resources with this alternative.

Conclusions

The volume of air emissions of construction and operation produced under this alternative would be higher than those produced under the No Action Alternative. Because few new facilities would be constructed and operated, however, the overall effects on air quality would still be negligible, adverse and long- term.

Implementation of the Centralized Access Alternative would not negligible adverse long- term cumulative impacts on air quality and natural

resources, because the total volume of air emissions under this alternative would be very small in comparison with the volume of air emissions originating outside the park.

There would be no impairment of air quality as a result of park actions under this alternative.

IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON WATER RESOURCES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to natural resources are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Implementation of the Centralized Access Alternative would result in an intermediate amount of land disturbing activity for construction of roads, parking lots, trails and buildings in the park in comparison with the No Action Alternative. These intermediate levels of construction under the Centralized Access Alternative were estimated to have minor, adverse, short- term and long- term direct impacts on hydrology, water quality, and aquatic resources. Best management practices would be employed in all construction areas to control and minimize the amount and quality of runoff. These measures would include erosion control measures such as type C silt fencing in slopes greater than 3%, mulching, sedimentation ponds, and use of cocoa fiber and seeding of native grasses.

During operation under the Centralized Access Alternative, visitors would have access throughout the park at several hubs, as well as the other areas of the park. Under the Centralized Access Alternative, potential adverse impacts related to trail use and recreation would be mitigated by developing and implementing a resource and other management plans. New areas could also be added to the park under this alternative, providing additional levels of protection for water resources in the watershed. These combined actions and factors would result in a major, beneficial long- term effect on hydrology, water quality, and aquatic resources. Overall, the Centralized Access Alternative was therefore estimated to have a minor, adverse, long- term direct effect on water resources in the park.

Cumulative Impacts on Water Resources

There would be an intermediate level of construction under this alternative in comparison with the No Action Alternative that could result in a greater cumulative effect on hydrology, water quality, and aquatic resources. However, because an resource and other management plans would be developed and implemented, soil erosion from trails and other forms of visitor use would be minimized over the long term. This would result in a major, beneficial long- term cumulative effect on hydrology, water quality, and aquatic resources. The cumulative adverse effects of the limited amount of construction and maintenance activities inside the park on water resources were therefore estimated to be minor and long- term under the Centralized Access Alternative, since these activities would be limited and managed.

In contrast, the cumulative effects of stormwater runoff from development outside the park on water resources inside the park would continue to increase under the Centralized Access Alternative, as it would under the No Action Alternative. As the area surrounding the park becomes more and more developed, this problem would be expected to increase. This would constitute a major, adverse, cumulative long- term effect on hydrology, water quality, and aquatic resources. This type of effect would occur under all of the alternatives because the park is located in a rapidly developing urban area. These effects would be offset to some degree by the development and implementation of resource and other management plans, and by completion of environmental assessments that are tiered to the general management plan/environmental impact statement.

The growth in the area surrounding the park has already had a major adverse effect on fishing in the Chattahoochee River, which is included within the park. This was identified as an issue during public meeting and workshops of the general management plan/environmental impact statement. However,

this issue cannot be addressed by the park effectively because it is largely outside of the parks' control. Fish species diversity and populations in the river vary in quality depending on the location along the corridor. The northern section below Lake Lanier is characterized by a relatively healthy fish community and is much less affected by nonpoint stormwater runoff as compared with the lower portion of park. However, during intense storms, even the northernmost sections of the river, except the area immediately below Buford Dam, are affected by runoff and sedimentation from the surrounding area. As the northern areas of the park corridor continue to grow, these effects on fish populations are expected to increase. Under the Centralized Access Alternative, there would be some chance for improving this situation because there would be more coordination and planning between the National Park Service and local governments to control stormwater runoff. This would be implemented as part of resource and other management plans developed by the park. However, as watershed plans are developed and implemented by local governments, controls should ultimately be put in place, and the fisheries of the river would hopefully improve over the long term. Currently this is not the case, however, and the river continues to be affected by stormwater runoff. The Centralized Access Alternative would provide an opportunity to help control these types of cumulative effects on fish in the river.

There would be no irreversible or irretrievable commitment of the water resources of the Chattahoochee River and its tributaries under this alternative related to NPS actions.

Conclusions

The Centralized Access Alternative would have minor, adverse, short- term direct impacts on surface water hydrology, water quality, and aquatic resources resulting from construction and maintenance activities. These would be of greater intensity than the impacts on water resources resulting under the No Action Alternative. These effects would be offset to some degree by the development and implementation of resource and other management plans, and by completion of environmental assessments that are tiered to the general management plan/environmental impact statement.

Minor, adverse, long- term direct effects on water resources would result from surface runoff during operation. These would also be of greater intensity then the effects of the No Action Alternative. The potential effects of construction and operation of park facilities would be mitigated by implementation of resource and other management plans inside the park, and by completion of environmental assessments that are tiered to the general management plan/environmental impact statement. This would constitute a major, long-term, direct beneficial cumulative effect on surface water hydrology, water quality, and aquatic resources.

Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by implementation of resource management plans in the park, as well as increased levels of coordination efforts with the surrounding communities, resulting in a major beneficial, long- term cumulative effect on surface water hydrology, water quality, and aquatic resources.

There would be no impairment of water resources as a result of park actions under this alternative.

IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON WETLANDS AND FLOODPLAINS

Regulations and Policy

The regulations and policies that guide NPS actions with respect to wetlands and floodplains are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

An intermediate level of construction (such as boardwalks, or foot bridges, boat ramps, parking lots, limited roads, or small buildings) and maintenance activities would occur under the

Centralized Access Alternative in comparison with the No Action Alternative. New trail construction would be addressed and assessed in the form of individual tiered environmental assessments, and avoidance, minimization and compensation would have to be demonstrated prior to construction activity. The amount of new trail construction would be greater than the No Action Alternative. Resource and other management plans would be implemented under the Centralized Access Alternative, however, resulting in moderate, beneficial long- term direct effects on wetlands and floodplains. Overall, construction activities under the Centralized Access Alternative were estimated to have minor, adverse, long- term, direct impacts on wetlands and floodplains in the park.

During operation of the park under the Centralized Access Alternative, existing levels of protection of wetlands and floodplains would be improved through implementation of resource and other management plans. More facilities would be operated under this alternative than the No Action Alternative, however, and an intermediate level of effects could result on wetlands and floodplains. This alternative was therefore estimated to have minor, adverse, long- term effects on wetlands or floodplains related to operation of the park. Where erosion occurs along informal trails or overused areas, these conditions would be reduced over time due to implementation of resource and other management plans. This would constitute a moderate, long- term beneficial effect on wetlands and floodplains. Some new park areas could be added that could be used to protect several small wetlands and floodplains or a larger wetland/floodplain at a single location. This would also result in a moderate long- term beneficial effect on wetlands or floodplains.

Cumulative Impacts on Wetlands and Floodplains

Minor, adverse, long- term, cumulative effects on wetlands and floodplains inside the park would result from construction and operation of park facilities under the Centralized Access Alternative, since this alternative would involve an intermediate level of construction and maintenance in comparison with the No Action Alternative. Floodplains and wetlands throughout the park would continue to be protected from direct disturbance from park construction projects through required environmental assessments tiered to the general management plan/environmental impact statement. Application of best management practices would help reduce risk to floodplain and wetland resources from polluted runoff, erosion, filling activities, or sedimentation from sources within the park.

During operation, this alternative would result in minor, adverse, long- term cumulative impacts caused by runoff from paved areas and overall encroachment by visitors in wetlands and floodplains. However, these potentially adverse effects would be offset by development and implementation of resource and other management plans. These would lead to improved management of visitor access to wetlands and floodplains and control of erosion along trails and other areas, and would result in a moderate, beneficial, long- term effect on wetlands and floodplains.

Wetlands and floodplains located within the park would continue to be affected by sediments and water transported via runoff during high storm water discharges originating from developed areas outside the park. This would constitute a long-term major adverse effect. This effect would be the same for all of the alternatives.

These would be no irreversible or irretrievable commitment of wetland or floodplain resources under this alternative related to NPS actions.

Conclusions

Implementation of the Centralized Access Alternative would result in minor, adverse long-term direct effects on wetlands and floodplains, since the amount of facility construction and operation would be intermediate. Implementation of resource, trail and other management plans would result in a moderate, beneficial, long- term effect on wetlands and floodplains in the park. Cumulative impacts from stormwater runoff originating in developed areas outside the park would cause major, adverse, long- term effects on wetlands and floodplains, however, due to erosion and sedimentation during major storm events.

There would be no impairment of wetlands and floodplains as a result of park actions under this alternative.

IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON RARE, THREATENED AND ENDANGERED SPECIES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to rare, threatened and endangered species are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

The Centralized Access Alternative would involve construction, and higher rates of visitor use in comparison with the No Action Alternative. The potential effect of construction activities of this alternative on protected species would be greater than that associated with the No Action Alternative. Some fragmentation of terrestrial habitat would occur, but because the number of projects would be few and localized in three hubs and five developed zones, this direct effect would be minor. Under the Centralized Access Alternative, any construction project, however, would require a National Environmental Policy Act environmental assessment that would include rare, threatened, and endangered species surveys, consideration of alternatives, and assessments of impacts. Therefore, impacts would be avoided or minimized to the greatest extent possible. In addition, under the Centralized Access Alternative, resource, trail and other management plans would be developed and implemented. It would also be possible to acquire additional park areas. All of these factors would result in a moderate, long- term beneficial direct effect on protected species. The effects of construction of park facilities under this alternative on protected species were therefore estimated to be minor, adverse, and long- term.

The location of numerous protected species of plants and animals in the park is known and documented by the Georgia Department of Natural Resources/Wildlife Resources Division surveys, as well as other surveys. Definitive and detailed park- wide surveys have yet to conducted by the park, however. Until these surveys are completed, the park would rely on site- specific surveys for individual construction project sites to assess the potential for impacts on protected species.

During operation of the park, rare, threatened and endangered species would continue to be protected under the Centralized Access Alternative. New areas could be added to the park under the Centralized Access Alternative, and resource and other management plans would be prepared and implemented, which could result in long- term habitat improvements and expansions. These factors would result in a moderate, long-term, beneficial direct effect. Since the number of new facilities operated under this alternative would be intermediate, operations of the park was estimated to have minor, adverse, long- term, direct impacts on protected species.

Cumulative Impacts on Rare, Threatened and Endangered Species

Cumulative effects of construction under the Centralized Access Alternative would be greater than those associated with the No Action Alternative because a greater amount of construction would be involved, mainly in five developed zones and up to three hubs. However, environmental assessments would be conducted for each proposed project, which would minimize the potential for cumulative impacts of projects in the park. There is also a potential for long- term improvement of habitat for protected species under the Centralized Access Alternative since resource and other management plans would be developed and implemented. This would help minimize the potential for exotic species to invade, and for habitats to be further improved and protected from increased visitor use. The park's rare, threatened and endangered species would continue to benefit from the protection the park affords. Area could also be added to the park under this alternative. All of these factors would constitute a moderate, beneficial, long- term cumulative effect. The overall cumulative effect of the Centralized Access Alternative is therefore estimated to be minor, adverse, and long- term.

There would be no irreversible or irretrievable commitment of rare, threatened and endangered species or related habitat resources with this alternative.

Conclusions

Implementation of the Centralized Access Alternative would result in overall minor, adverse, long- term direct and cumulative effects on rare, threatened and endangered species, since the number of new facilities to be constructed and operated would be limited, and resource and other management plans would be prepared and implemented. New areas could also be added to the park and these could contain protected species that would also be protected. Efforts to document and protect rare, threatened and endangered species populations currently present in the park would continue to be maintained and potentially expanded. These factors would constitute moderate long- term beneficial direct and cumulative impacts.

There would be no impairment rare, threatened or endangered species habitats and values as a result of park actions under this alternative.

IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON TERRESTRIAL ECOLOGICAL RESOURCES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to terrestrial ecological resources are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

The Centralized Access Alternative would involve more facility construction and operation activities as compared to the No Action Alternative, due to the greater amount of land disturbing activity in five developed zones and up to three hubs. Some fragmentation of terrestrial habitat would occur, but because the number of projects would be few and localized in three hubs and five developed zones, this direct effect would be minor, adverse, and long- term. Prior to implementation of construction activities, the National Park Service would conduct a detailed site- specific survey of the terrestrial vegetation at the project sites, as part of tiered environmental assessments. The type, extent, maturity and ecological values of terrestrial habitats at each proposed site would be evaluated and the impacts of the proposed project would be assessed. This information would be used to make a decision regarding the feasibility of the proposed site for construction. This information would be used to avoid forested areas or other valuable habitats, as required by the National Environmental Policy Act. Minor, adverse, long-term, impacts on terrestrial resources could result from implementation of this alternative, since some trees and areas might be cleared for construction of park facilities, but the extent of habitat that would be disturbed would be limited. The option of locating facilities outside of the park would also be considered in these situations. Wildlife in the park that require deciduous forest habitats and riparian corridors in relatively contiguous tracts would continue to benefit from the protection of most of the park's land area.

By centrally locating facilities and educational resources/park information in five developed zones and up to three hubs, it would be possible to inform a greater number of visitors than the No Action Alternative. Increased park staff proposed under this alternative would facilitate this increased level of communication about the park's resources and the need to protect them. This would result in a moderate, beneficial, long- term effect.

In addition, preparation and implementation of resource and other management plans under the Centralized Access Alternative would have a moderate, beneficial, long- term direct effect on terrestrial habitats in the park. The plans would include measures and priorities for restoration of degraded habitats, means to control invasive species such as privet and English Ivy, and guidance and standards for trail construction and maintenance.

There would be no irretrievable or irreversible commitment of resources as a result of implementation of this alternative.

Cumulative Impacts on Terrestrial Ecological Resources

The activities associated with the Centralized Access Alternative would have minor, adverse short- or long- term, cumulative effects on terrestrial ecological resources because of the potential for increased level of facility construction and operation in developed zones and up to three hubs. These effects would be centralized as compared to the No Action Alternative. With increased levels of visitor activity expected in developed zones and up to three hubs, an increased potential for visitor- related effects on habitats in the park would also exist. This could be offset by increased levels of effort concerning other management, restoration, education, and other agency coordination. The results of such efforts would be difficult to measure, but would be expected to result in moderate, long- term beneficial effects on terrestrial ecological resources in the park.

Ongoing urbanization in the surrounding region would continue to eliminate forest and wildlife species. Park management practices associated with the Centralized Access Alternative would have little effect on regional, development- related effects on the species in the surrounding area. Improved education and coordination elements of this alternative could provide beneficial effects, as increased awareness of these resources could generate interest in their protection outside the park as well.

There would be no irreversible or irretrievable commitment of terrestrial ecological resources under this alternative.

Conclusions

This alternative would result in an intermediate amount of land disturbance as compared with the No Action Alternative. The construction phase of the Centralized Access Alternative would therefore have minor, adverse, short- and long- term direct and cumulative effects on terrestrial ecological resources because of the greater degree of facility construction and operation in developed zones and hubs. These impacts would be avoided and minimized because tiered environmental assessments would be required for each project.

During operation, more visitors would be attracted to the park via developed zones and up to three hubs, resulting in an increased potential for visitor-related damage to habitats. Tiered environmental assessments would also be required prior to selecting a site for a project, however, and impacts would be avoided and/or minimized to the extent possible. Development and implementation of resource and other management plans, increased education, coordination, and staffing levels would have major, long- term beneficial effects on these resources in the park. The overall direct effect of this alternative on terrestrial ecological resources was therefore estimated to be minor, adverse and long- term.

There would be no impairment of terrestrial ecological resources as a result of park actions under this alternative.

IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON PRIME AND UNIQUE FARMLANDS

Regulations and Policy

The regulations and policies that guide NPS actions with respect to prime and unique farmlands are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Proposed NPS projects in the park could impact prime and unique farmlands, all of which are located north of McGinnis Ferry Road. The Centralized Access Alternative would have an intermediate overall relative potential to impact these types of soils, since this alternative would involve a somewhat higher amount of construction, maintenance and operation activities than the No Action Alternative. The overall effect of construction activities completed under Centralized Access Alternative on prime and unique farmland would be minor, adverse and long- term. Soil erosion would also be minimized in the vicinity of these soils types since best

management practices would be instituted. Should a project be proposed that would affect a prime and unique farmland in the future, a site specific environmental assessment would be completed, and the impacts would be addressed. Resource and other management plans would also be prepared and implemented, which would allow for avoidance of potentially adverse impacts on prime and unique farmlands.

The potential effects of park operation on prime and unique farmlands under the Focus on Solitude Alternative would be minor, adverse and long-term, since visitor activities would include more active forms of recreation over a wider area of the park than the No Action Alternative.

Cumulative Impacts on Prime and Unique Farmlands

The cumulative adverse effects of the construction, maintenance and operation activities within the park on prime and unique farmlands under the Centralized Access Alternative would be minor, adverse, and long- term since this alternative would involve intermediate levels of construction and maintenance in the park, and somewhat more varied, active forms of recreation over a wider area of the park. Should a project be proposed that would affect a prime and unique farmland in the future, a site specific environmental assessment would be completed, and the impacts would be further addressed. Resource and other management plans would also be developed and implemented, which would allow for avoidance of potentially adverse impacts on prime and unique farmlands. In contrast, the cumulative effects of development in the area surrounding the park on prime and unique farmlands would be moderate, adverse and long- term. These effects are related to the impacts of increased surface water runoff on soils in the park from the rapidly developing surrounding area.

There would be no irreversible or irretrievable commitment of prime and unique farmland resources with this alternative.

Conclusions

The Centralized Access would have minor, adverse, direct and cumulative long- term impacts on prime and unique farmlands, since the amount of construction proposed within the park would be intermediate. Site- specific environmental assessments would identify such resources and avoid impacting them, and resource and other management plans would be prepared and implemented. Development in the area surrounding the park would have moderate adverse, long- term impacts on prime and unique farmlands that is largely outside of the park's control.

There would be no impairment of prime and unique farmlands as a result of park actions under this alternative.

IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON CULTURAL RESOURCES

This section describes the methods used, analysis of effects conducted and conclusions drawn for archeological resources and historic buildings, structures and objects.

IMPACTS ON THE ARCHEOLOGICAL RESOURCES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to archeological resources are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

As discussed in the "Affected Environment" section, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Any ground- disturbing activities associated with the Centralized Access Alternative would therefore have the potential to affect such sites.

Until a National Register of Historic Places evaluation for any site was completed, it would be

assumed that the site is eligible for listing on the register. Therefore, until proven otherwise, disturbance to any archaeological site that was discovered during the survey, design, or construction of any facilities under Centralized Access Alternative would be considered an adverse effect. The Centralized Access Alternative includes more construction than the No Action alternative; accordingly, the Centralized Access Alternative has a greater potential for construction- related adverse effects to archeological resources than the No Action Alternative. For purposes of this general management plan/environmental impact statement, the overall direct effect of the Centralized Access Alternative on archeological resources was estimated to be minor, adverse and long- term.

As described in the section entitled "Servicewide Mandates and Policies," the National Park Service is required to protect archaeological resources within the park. Therefore, prior to undertaking any construction activities under the Centralized Access Alternative, the National Park Service would conduct a tiered environmental assessment, and:

- Conduct cultural resources surveys of areas to be disturbed, including trail alignments
- Identify all archaeological resources that are discovered during the surveys
- Systematically inventory each site to determine and document its significance to support its evaluation for National Register of Historic Places eligibility
- Determine eligibility in concert with the Georgia State Historic Preservation Officer and Advisory Council on Historic Preservation
- Relocate any facilities that would disturb National Register of Historic Places- eligible sites

The collection of data to support the eligibility evaluation, and the determination of eligibility can be time consuming. Therefore, as a timesaving approach, the National Park Service would assume that any archaeological site that is discovered is eligible for listing, and would relocate the facility to be constructed to avoid that site. This approach would substantially reduce the potential for construction- related adverse effects to archaeological resources.

Under any alternative, the integrity of some sites would be degraded by natural processes such as wind and water erosion, or by vandalism or inadvertent damage by visitors. By establishing nine cultural resource zones, the Centralized Access Alternative provides greater protection, monitoring, and interpretation of archeological sites than the No Action Alternative. By establishing cultural resource zones, and by increasing monitoring, numbers of rangers, and education programs, as well as implementing a resource management plan and a collections management plan, the Centralized Access Alternative provides greater protection and monitoring of a subset of the archaeological resources within the park compared to the No Action Alternative. This alternative would therefore avoid adverse impacts on archeological resources.

Cumulative Impacts

During construction, the Centralized Access Alternative has a potential to impact archeological resources at virtually any site that is cleared. The cumulative effects of all construction activities under this alternative within the park could therefore be greater than the No Action Alternative. For purposes of this general management plan/environmental impact statement, the overall cumulative impact of construction activities under the Centralized Access Alternative on archeological resources was therefore estimated to be minor, adverse and long-term.

Prior to undertaking any construction activity, however, the National Environmental Policy Act, the National Historic Preservation Act, and NPS management policies and guidelines all require completion of an archeological survey and an estimate of potential adverse impacts. Adherence to these procedures would assure that the construction activities would not have any adverse cumulative impacts on archeological resources in the park.

During operation, archeological resources could be impacted by human disturbance. Taken collectively over the length of the park, these cumulative impacts could be adverse and long- term. The Centralized Access Alternative has an intermediate potential for this to occur. In addition, a resources management plan and a collections management plan would be prepared and implemented under this alternative that would be designed to preserve and protect these resources. This would constitute a beneficial long- term effect.

Where sites were disturbed, such as the unexpected discovery of a site during construction or unanticipated effects to previously identified sites, data recovery and preservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archaeological resources.

Conclusions

Archeological resources in most of the Atlanta area have been disturbed or eliminated as a result of urban sprawl. Therefore, protection, and preservation of archaeological sites within the park is important on a regional level, as these resources represent former conditions throughout the area. The identification and systematic inventory of archeological resources in the cultural resources zones during the implementation of the Centralized Access Alternative offer an opportunity to add to the knowledge of the prehistory and history of both the park and the entire vicinity.

The Centralized Access Alternative implements management actions that would centralize construction and visitor- impacts within developed zones and up to three hubs located in (or outside) the park, minimize the construction of facilities in other portions of the park, and highlight inventory, preservation and maintenance of archaeological sites within nine cultural resource zones. Despite the greater amount of construction and land disturbing activity involved under the Centralized Access Alternative compared to the No Action Alternative, survey, identification, and avoidance measures would be implemented prior to construction thereby avoiding most or all of the adverse effects. This would increase our knowledge of the numbers and types of resources present within the park. The overall potential direct and cumulative effect of this alternative on archeological resources was therefore estimated to be minor, adverse and long- term.

In addition, by implementing a resource management plan and increasing monitoring of degradation and vandalism within the park, the Centralized Access Alternative provides greater protection of archeological sites located outside of the cultural resource zones than the No Action Alternative.

Prior to disturbing any site for construction, detailed National Environmental Policy Act assessments would be required as part of tiered environmental assessments. The National Environmental Policy Act, the Advisory Council on Historic Preservations regulations implementing Section 106 of the National Historic Preservation Act (36 CFR 800), and NPS management policies and guidelines require avoidance and minimization of adverse impacts on cultural resources where feasible.

There would be no impairment of archeological resources as a result of park actions under this alternative.

IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON HISTORIC BUILDINGS, STRUCTURES AND OBJECTS

Regulations and Policy

The regulations and policies that guide NPS actions with respect to historic buildings, structures and objects are presented in the “Servicewide Mandates and Policies” section of this document.

Analysis

Nine cultural resources zones would be established under the Centralized Access Alternative, as compared to none under the No Action Alternative. The nine cultural resource zones encompass the majority of the National Register of Historic Places- listed or National Register of Historic Places- eligible historic buildings,

structures, or objects in the park; the exception being those resources located within the Fort Peachtree Unit. As a result, implementation of the Centralized Access Alternative would result in greater protection of these types of cultural resources in the park than that offered under the No Action Alternative.

Because cultural resources in cultural resource zones would be documented and interpreted, the implementation of the Centralized Access Alternative has a greater potential for preservation and interpretation of historic buildings, structures and objects than the No Action Alternative. This would constitute a major, long- term beneficial impact.

The Centralized Access Alternative offers slightly greater protection from degradation, vandalism or inadvertent damage by visitors to resources located outside of the cultural resources zones or in developed zones and up to three hubs due to proposed increased monitoring and ranger staffing levels as compared to the No Action Alternative.

The Centralized Access Alternative has a potential to affect archeological resources, and minor impacts are possible. The overall potential direct and cumulative effect of this alternative on historic buildings, structures and objects was therefore estimated to be minor, adverse and long- term.

Cumulative Impacts

During construction, the Centralized Access Alternative, (like any alternative), has a potential to impact buildings, structures and objects at virtually any site that is cleared. The potential for adverse impacts would be greater under the Centralized Access Alternative then the No Action Alternative. Prior to undertaking any construction activity, however, the National Environmental Policy Act requires completion of a survey and an estimate of potential adverse impacts. Adherence to these procedures would assure that the construction activities would not have any adverse cumulative impacts on buildings, structures and objects in the park. In addition, a resource management plan, a collections management plan and other management plans would be prepared under this alternative that would be designed to preserve and protect these resources. This would result in a major, long- term, beneficial effect on cultural resources in the park.

During operation, buildings, structures and objects could be impacted by human disturbance. Combined over the length of the park, these cumulative impacts could be adverse and long-term. In comparison to the No Action Alternative, the Centralized Access Alternative has an intermediate potential for this to occur. Increased monitoring and increased numbers of park rangers would reduce the potential for adverse effects, however. A cultural resources management plan and a collections management plan designed to preserve and protect buildings, structures and objects would also be prepared and implemented under this alternative.

Conclusions

The park contains a variety of historic buildings, structures and objects that are significant to the historical development of the Chattahoochee River corridor and the greater Atlanta area. Some of these resources are among the last remaining examples of their construction types in the region. This alternative is estimated to have minor, adverse, long- term effects on historic buildings, structures and objects in the park, since some areas could be impacted during construction and operation of park facilities. The Centralized Access Alternative's protection and rehabilitation of the resources within the cultural resources zones and implementation of a cultural resources management plan and a collections management plan for the park would have major beneficial effects in preserving these resources for the future compared to the No Action Alternative.

The Centralized Access Alternative would also provide increased monitoring to protect and preserve historic buildings, structures and objects within the park compared to the No Action Alternative. Historic buildings, structures and objects in the park would be afforded enhanced protection and preservation through the development and implementation of systematic integrated inventory, research, and preservation planning in nine cultural resources zones. Rehabilitation of historic structures would occur,

with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance with park resource values. This would be a major long- term benefit.

There would be no impairment of historic buildings and objects as a result of park actions under this alternative.

IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON TRANSPORTATION

Regulations and Policy

The regulations and policies that guide NPS actions with respect to transportation resources are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Under the Centralized Access Alternative, approximately 40 percent of the park would be designated as developed, natural area recreation, and cultural resource zones. Under this alternative, up to three hubs would be located in the southern, central and northern ends of the park. The hubs would be located in close proximity to the higher population areas. In the northern part of the park, the hubs would be located in more suburbanized areas. In addition to the hubs, this alternative would result in a greater incidence of congested roadway facilities in the southern portion and midsections of the park and the traffic generated by this would add to the traffic congestion in the area (Table 30). Overall, however, these are still defined as moderate, adverse, direct, long- term impacts.

Under the Centralized Access Alternative, 39.5% of the park would be zoned for a more facilitated experience. This would result in increased numbers of trips made by visitors to hubs in the park, and a relatively higher degree of transportation impacts as compared with those produced by the No Action Alternative. Streets and highways that could be impacted by the trips produced by the Centralized Access Alternative are summarized in Table 15.

This alternative could have a greater effect on surface roads where hubs would be located, since more facilities would be centralized in these hubs compared to more dispersed facilities under the No Action Alternative. However, this would only occur where developed zones would increase the number of parking areas or change the type of visitor experience as compared to the No Action Alternative. Some areas designated as developed zones already act as hubs, so the effect would be similar to the No Action Alternative. The detailed, site- specific impacts of projects proposed would be addressed in future environmental assessments, tiered to this general management plan/environmental impact statement. Possible site- specific traffic solutions such as traffic calming measures or altered traffic flow patterns in and out of the hubs would be identified. This could result in improved conditions, which could be considered beneficial long- term effects on transportation resources in the park.

The Centralized Access Alternative would have more paved and unpaved trail construction in comparison to the No Action Alternative. More trails would be constructed than under the No Action Alternative, but they would be managed more effectively under an integrated trails system plan. Overall, the Centralized Access Alternative would have minor, adverse, long- term effect on paved and unpaved trails, since an intermediate amount of construction would occur. An integrated trails system plan would also be implemented, which would result in a major, beneficial, long- term effect on resources and associated visitor experience. Trails in areas that are currently being overused could be phased out and managed effectively under this alternative. Use of informal trails in the park would decrease over time as the integrated trail system plan is implemented. The overall visitor experience would be greatly improved, since trails would be properly designed and maintained.

An integrated trails system plan would be developed and implemented under the Centralized Access Alternative, and efforts to increase connectivity with trails systems being developed in the area surrounding the park by local governments would be greatly increased. This would constitute a major, beneficial, long- term

effect on the ability to develop improved connectivity with the surrounding communities.

The primary form of non- motorized transportation in the park is the bicycle. The Centralized Access Alternative would have a moderate, beneficial long- term effect on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be considered appropriate in more areas under this alternative than under the No Action Alternative. An increased number of bicycle trails would be available under this alternative since the Centralized Access Alternative emphasizes both passive and active forms of recreation. An integrated trails system plan would also be developed and implemented under the Centralized Access Alternative, with an emphasis on more varied types of recreation.

The Centralized Access Alternative would consider a higher level of bicycle use appropriate, and would pose a higher potential for creating problems with erosion in comparison with the No Action Alternative. However, these potential effects would be addressed and managed more effectively in an integrated trails system plan. This would constitute a moderate, beneficial, long- term effect. Overall, the Centralized Access Alternative would therefore have a minor, adverse, long- term effect on erosion and water quality degradation associated with bicycle use.

Cumulative Impacts

Regional growth in the counties in the metropolitan Atlanta area is the primary reason for the projected increases in traffic volumes around the park. No matter which management actions are taken in the park, traffic in the region is expected to continue to increase in the future. The cumulative effects of the Centralized Access Alternative on transportation in the park and on the surrounding region would be moderate, adverse and long- term, based on the data presented in Table 30. Areas currently experiencing congestion would be expected to continue to do so in the future if planned improvements do not take place.

Under the Centralized Access Alternative, the cumulative amount of use of paved and unpaved trails would be greater than the No Action Alternative. Paved and unpaved trails throughout the park would be managed under an integrated trails system plan. This would constitute a moderate, beneficial, cumulative long- term effect, since these effects would extend throughout the park. The overall cumulative effects of the Centralized Access Alternative on the use of paved and unpaved trails throughout the park were therefore estimated to be minor, adverse, and long- term.

An integrated trails system plan would be developed and implemented under the Centralized Access Alternative, and efforts to increase connectivity with trails systems being developed in the area surrounding the park by local governments would be increased throughout the park as a result. This would constitute a major, long- term beneficial cumulative effect.

The Centralized Access Alternative would have a moderate, beneficial cumulative long- term influence an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be appropriate in more areas of the park under this alternative.

The cumulative effect of off- road bicycle use on water quality and soil erosion would be minor, adverse and long- term, since the total amount of bicycle use would increase in comparison with the No Action Alternative. Potential cumulative effects of bicycle use on water quality caused by erosion would be mitigated, since an integrated other management plan would be prepared and implemented.

There would be no irreversible commitment of resources associated with transportation with this alternative. Limited amounts of nonrenewable resources would be used for maintenance of roadways and paved trails, including energy and materials. These resources would be irretrievable once they were committed.

Conclusions

Transportation and traffic problems in the park and surrounding area would continue to increase under any of the alternatives, since traffic and

transportation patterns and characteristics are largely controlled by factors outside the park. Overall, the Centralized Access Alternative would have moderate, adverse, long- term direct and cumulative effects on transportation and traffic in the park and surrounding area, due to traffic congestion. This would be similar to the effect of the No Action Alternative.

The Centralized Access Alternative would have minor, adverse, long- term direct and cumulative impacts on paved and unpaved trails in the park, since more trails would be constructed in comparison with the No Action Alternative. An integrated trails system plan would be completed, and efforts to improve connectivity with the surrounding areas would be greatly improved under this alternative. This would result in moderate, beneficial, long- term direct and cumulative effects.

The Centralized Access Alternative would result in an increase in the amount of bicycle use than the No Action Alternative. The Centralized Access Alternative would therefore have minor, adverse, long- term direct and cumulative effects on erosion and water quality degradation related to bicycle use. An integrated trails system plan would also be developed and implemented, and erosion associated with off- road bicycle use would decrease over current levels in the park. This would result in moderate, beneficial, long- term direct and cumulative effects on water quality in the park.

IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON VISITOR AND COMMUNITY VALUES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to visitor and community values are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Visitor Experience — Under the Centralized Access Alternative, visitors could experience solitude in the majority of the park, but would also be provided with other types of experiences and facilities centralized in the developed zones and hubs. The No Action Alternative would provide no hubs or new development zones and would rely on existing facilities and programs for visitors.

The area of the park designated as urban primitive zone would be 41.1% under the Centralized Access Alternative. An additional 19.3% of the park would be dedicated to pristine river zones in which mechanized forms of recreation would not be deemed appropriate, and only unpaved trails away from the river would be constructed. These areas would provide a relatively high level of opportunity for visitors to experience isolation, a feeling of closeness to nature, solitude and tranquility, all within a rapidly growing urban region. Varied types of experiences would be possible under this alternative, due to the availability of more active forms of traditional recreation accessed via the hubs. This alternative would have minor, adverse, long- term effects on visitors who value solitude and isolation since the provision of facilities would draw people to the hubs. However, once a visitor moved away from the hub, the probability of experiencing solitude and isolation would be more likely to increase. In addition, the hubs would have would have a minor, beneficial, long- term effect on visitors who value more active forms of experience and park use. These visitors could utilize the hubs for access to more active types of experiences. Areas between the hubs would still be left in an essentially natural state for other visitors who prefer solitude and isolation.

This alternative would also provide visitors with a moderate degree of challenge and risk with respect to outdoor activities, and would require moderate to high knowledge of outdoor recreation skills, in comparison with the No Action Alternative. More facilitated experiences would be available in the hubs, including an increased likelihood of meeting a park ranger. Visitors would be more likely to obtain information from rangers under the Centralized Access Alternative than under the No Action Alternative because facilities and information would be available from park staff at the hubs. Under this alternative, visitors would experience relatively low numbers of encounters with other people in the majority of the park, while simultaneously being provided with facilities at the

hubs. Visitors would experience higher encounter rates in the hubs. A greater number and diversity of park facilities would be available to visitors under this alternative in the hubs in comparison with the No Action Alternative. The more efficient and cohesive working environment that this alternative would provide a benefit for park staff, and the dispersed park ranger presence would result in better service to park visitors.

Recreational Opportunity — The Centralized Access Alternative would provide visitors with opportunities for solitude over the majority of the park (60%), and more active and varied forms of recreation in the developed zones and natural area recreation zones (2.7 and 2.9%, respectively). This alternative would provide an intermediate level of solitude and isolation over a relatively large geographic area within the park, and a lower level of solitude in hubs in comparison with the No Action Alternative. The Centralized Access Alternative would also provide river- based recreational opportunities associated with the pristine river zone, where increased opportunities for enjoying non- motorized, relatively quiet stretches of the river would occur. This type of zone does not currently exist and would not be planned in the future under the No Action Alternative. Those that prefer to use motorized watercraft on the river in areas designated pristine river zones would be directed to other zones along the river. This would be considered a moderate adverse, long- term direct effect on those visitors, but a long- term beneficial effect to visitors desiring a relatively quiet river experience. Development and implementation of resource and other management plans would benefit visitors in terms of defined preservation and protection measures that would enhance the visitor's recreational and general experiences over the long- term. Compared to the No Action Alternative, integrated trails throughout the park would provide a more pleasant recreational experience for most trail users.

Compared to the No Action Alternative, there would be additional types of recreational experiences, centralized access to trailheads and the river, while simultaneously providing the opportunity for isolation and solitude in the park. The Centralized Access Alternative could be considered by visitors to have beneficial or adverse effects on their recreational experience depending on the purpose of their visit.

Numbers and Types of Visitor Facilities — The Centralized Access Alternative would result in the construction and operation of more new facilities than the No Action Alternative. The hubs would provide visitors with convenient access to the park in the form of roads, parking lots, paved and unpaved trails, trailheads, restrooms, and interpretive facilities/kiosks. In areas of the park between the hubs, visitors would be provided with a system of integrated trails, identified in an integrated trail system plan. Visitors seeking river experiences would have access to launch rafts, canoes, and boats at locations distributed strategically along the 48- mile park corridor. No roads, parking lots, administrative facilities or other buildings or bridges would be allowed in the pristine river zone under this alternative. Provision of these types of facilities would, however, be appropriate in the three hubs. The Centralized Access Alternative would provide a major, beneficial effect for visitors who value some degree of developed facilities, while simultaneously being able to also have access to and enjoy natural areas of the park. Improvement to visitor facilities and facilities used for administration and operations would enhance educational and interpretive experiences.

Traditional Character— The traditional character of the park would be maintained under the Centralized Access Alternative and there would be moderate to major improvements including preparation and implementation of a resource and other management plans. Additional changes would include increased communication and contact with visitors, increased education programs, and public/private partnerships designed to improve the visitor's understanding and appreciation of the natural and cultural resources in the park, and to allow for improved management and protection of park resources. Visitors would continue to have access to the wide variety of established recreational activities described in the "Affected Environment" section. Under the Centralized Access Alternative, park rangers could increase the number of visitors they could communicate with due to the central

location and availability of facilities in the hubs. The hubs would provide visitors with a known location for obtaining information about recreational opportunities, educational opportunities, resources and their protection, and general park information. Compared to the No Action Alternative, more park rangers would be in the park to talk to visitors. The traditional character of the park would be more effectively communicated to visitors under this alternative as a result. With more park managers there would be an increase in the efficiency and ability to effectively identify, preserve and protect natural and cultural resources. The Centralized Access Alternative would have a major, beneficial long- term effect on maintaining the traditional character and experiences in the park. This would all be augmented by the creation and operation of the hubs.

Under the expanded park boundaries, the park would not only continue to provide significant contributions in terms of regional green space and recreational opportunities, but would increase those opportunities as financial resources allow. There would not be any irretrievable or irreversible commitment of park character and visitor experience resources with this alternative. Any management actions that altered traditional park character and visitor experience could be reversed.

Under the Centralized Access Alternative, none of the proposed park actions would conflict with land use plans, policies, or controls. New park areas could be added under this alternative, but these additions would be agreed to by a willing seller and the National Park Service. In addition, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls ion the surrounding areas. Development activities would be limited to three hubs and five developed zones along the entire 48- mile corridor. Within these areas, only a small fraction of the area would be developed for park facilities.

Cumulative Impacts

Growth in the area and pressure to use the park for more active and varied forms of visitor use would increase under all of the alternatives, putting pressure on the park to provide a wider range of visitor experiences. Under the Centralized Access Alternative, however, the park would provide several hubs that would concentrate visitor activity at up to three selected locations. The operation of several new facilities in hubs would remove those areas for use by visitors who prefer isolation and solitude, but would promote a greater variety of visitor experience, for example, access to a boat ramp, trail, or interpretive facility. These features would constitute a major, beneficial, long- term cumulative effect. The hubs could also include educational facilities (building/kiosks) and centralized access to park rangers and information about park resources that would benefit the visitor. This alternative has been estimated to result in moderate, beneficial, long- term cumulative effects on visitor experience as a result.

Growth in the surrounding area would cause increased pressure on the park to provide more active forms of recreation. In comparison to the No Action Alternative, the cumulative effect of the Centralized Action Alternative would result in a lower intensity of effect as compared with No Action Alternative because it could accommodate a wider variety of recreational opportunities. This alternative has therefore been estimated to result in moderate, beneficial, long- term cumulative effects on recreational opportunity. Implementation of resource and other management plans would offset potential adverse cumulative effects on recreational opportunity, however. This would constitute a major, beneficial effect on recreational opportunities.

Growth in the surrounding area would have a moderate, adverse, cumulative effect on the ability of park management to repair and maintain facilities. Pressure to build more new facilities of different types would also increase in a cumulative manner as growth in the area around the park increases. However, the park could accommodate this situation to some extent because some new facilities would be constructed in the hubs. This would constitute a moderate, adverse, long- term cumulative effect on the numbers and types of park facilities.

Growth in the surrounding area would have a moderate, adverse, long- term, cumulative effect on

the traditional character of the park, as pressure for more active forms of recreation increase, and levels of encroachment around the boundaries of the park increase. The relative intensity of the cumulative effect of growth on traditional character of the park would be less than that associated with the No Action Alternative, however, since this alternative can accommodate a wider variety of visitor experiences and recreational activities. Since these would be centered in the hub areas, the traditional character of the park would be more effectively maintained. In the developed zones and hubs, impacts on the traditional character of the park would be minimized through proper site design and location. Some hubs may even be located in urbanized areas outside the park. Implementation of increased numbers and varieties of education and outreach programs and resource and trails management plans would offset potential cumulative effects of growth on traditional character of the park. These programs and plans would result in major, beneficial, long- term cumulative effects on the traditional character of the park.

Under the expanded park boundaries, the park would not only continue to provide significant contributions in terms of regional green space and recreational opportunities, but increase those opportunities as financial resources allow.

Conclusions

The Centralized Access Alternative would have beneficial or adverse effects on visitor's recreational experience depending on the purpose of their visit. The Centralized Access Alternative would provide a major beneficial effect for visitors who value some degree of developed facilities, while simultaneously being able to also have access to and enjoy natural areas of the park. This alternative would have a minor, adverse, long- term impact on visitors who value solitude and isolation since the provision of facilities would draw people to the hubs. Under the Centralized Access Alternative, visitors could experience solitude in the majority of the park, but would also be provided with other types of experiences and facilities centralized in the hubs. An intermediate number and diversity of park facilities would be available to visitors under this alternative in the hubs in comparison with the No Action Alternative. The more efficient and cohesive working environment that this alternative would provide for park staff, and the dispersed park ranger presence would result in better service to park visitors. Compared to the No Action Alternative, there would be additional types of recreational experiences, centralized access to trailheads and the river, while simultaneously providing the opportunity for isolation and solitude in other areas of the park.

Improvement to visitor facilities and facilities used for administration and operations would enhance educational and interpretive experiences as compared to the No Action Alternative.

SUSTAINABILITY AND LONG- TERM MANAGEMENT

The National Environmental Policy Act (sec. 101 (b)) and the National Park Service Organic Act require an assessment of the potential of each alternative to produce long- term impacts and the potential of foreclosing future options that are available to the National Park Service with regard to managing each park. The preferred alternative is required to allow for sustainable development, which is defined as an action that meets the needs of the present without compromising the ability of future generations to meet their needs (World Commission on Environment and Development in National Park Service 2001a). This section addresses the following three components of the sustainability assessment.

The Relationship Between Local Short- Term Uses of The Environment and The Maintenance and Enhancement of Long - Term Productivity - National Environmental Policy Act (sec. 102 (c) (iv))

Existing problems related to growth in the surrounding urban and suburban area and watershed are likely to continue with the growth in population, putting additional pressures on the natural and cultural resources in the park. As demand for recreation in the park grows, the long-term protection and enjoyment of park resources could be jeopardized. Despite development and

implementation of management strategies to provide more comprehensive protection of cultural and natural resources, there would likely continue to be instances where resources are disturbed by visitors exploring these sites. These impacts would be avoidable only if human use were not allowed in the park. Mitigation measures would be taken where possible to reduce these impacts. Improving the management of natural and cultural resources, along with enhancing research and education activities within the park, would contribute to the long- term protection and preservation of resources. Increased coordination with local agencies and other agency cooperative initiatives for resource and use management would further enhance resource protection and preservation. The development of new facilities would support the National Park Service mission while avoiding adverse cumulative impacts to ecosystems or resources. Short- term degradation of local water quality during construction projects would largely be prevented by best management practices. Short-term localized soil erosion (largely prevented by best management practices) and degradation of plant communities along trail construction corridors would be offset by long- term reductions in soil erosion resulting from the repair or realignment of poorly designed or damaged trails.

Any Irreversible or Irretrievable Commitments of Resources That Would Be Involved If the Alternative Were Implemented - National Environmental Policy Act (sec. 102(c) (v))

The National Environmental Policy Act and the National Park Service define irreversible impacts as those effects that cannot be changed over the long term or are permanent (National Park Service 2001a). An effect to a resource is irreversible if the resource cannot be reclaimed, restored, or otherwise returned to its condition before the disturbance. An irretrievable commitment of resources refers to the effects to resources that, once gone, cannot be replaced. There would be a potential for irreversible or irretrievable commitments of cultural resources under the Centralized Access Alternative. The implementation of a management strategy to provide comprehensive protection of cultural resources along with other natural resource protection measures would further reduce but not entirely eliminate the risk that visitors might disturb resources. In addition, limited amounts of nonrenewable resources would be used for construction projects and park operations, including energy and materials. These resources would be irretrievable once they were committed. Financially, the Centralized Access Alternative would require funding to accomplish its goals. In the long- term, some costs may be reduced as a result of more efficient use of centralized services lowering space and maintenance costs.

Any Adverse Impacts That Could Not Be Avoided If The Action Were Implemented - National Environmental Policy Act (sec. 101(c) (ii))

The National Environmental Policy Act and the National Park Service define adverse impacts as those that cannot be fully mitigated or avoided. For this plan, where construction activities disturbed cultural resource sites, data recovery and conservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archeological resources. There would be unavoidable adverse impacts on natural and cultural resources under the Centralized Access Alternative as a result of the increasing development outside the park that, with limited resources, tax the park staff's ability to effectively carry out resource protection measures. Mitigation measures would be taken, where resources allow, minimizing these impacts. In addition to the above unavoidable impacts, staff increases would require additional operational funding. Centralization of staff resources would be an effective means of making visitor contact and increasing the staff's ability to carry out resource protection measures.

ENVIRONMENTAL IMPACTS OF THE EXPANDED USE ALTERNATIVE

IMPACTS OF THE EXPANDED USE ALTERNATIVE ON NATURAL RESOURCES

Natural resources impact topics include air quality, water resources, wetlands and floodplains, rare, threatened and endangered species, terrestrial ecological resources and prime and unique farmlands. Analytical methods are provided under the No Action Alternative. Impact analyses and cumulative impact assessments and conclusions are described for each impact topic.

IMPACTS OF THE EXPANDED USE ALTERNATIVE ON AIR QUALITY

Regulations and Policy

The regulations and policies that guide NPS actions with respect to air quality are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Under the Expanded Use Alternative, the largest number of new park facilities (roads, parking lots, restrooms) would be constructed in developed zones. The Expanded Use Alternative would involve a level of construction activity that would be greater than the No Action Alternative and would produce the largest relative volumes of construction- related air emissions. Use of mitigation measures such as fugitive dust control during construction and use of properly maintained equipment would reduce adverse air quality impacts. Construction activities would result in minor increases in vehicle emissions and increased fugitive dust from developed sites, however, because of the overall relatively limited levels of construction, these emissions would constitute minor, adverse, short- term effects on air quality and natural resources.

Under the Expanded Use Alternative, the largest relative number of new park facilities would be constructed and operated in developed zones. Emissions generated by park visitor vehicles would be higher than those produced under the No Action Alternative. This alternative would also have a greater relative potential for increasing air emissions in the vicinity of the park during the operations phase. The operation phase would nevertheless have minor, adverse, long- term effects on air quality because of the relatively limited numbers of new facilities being operated under this alternative.

Cumulative Impacts

The combined effect of construction and operation of new park facilities under this alternative would have a negligible, adverse, long- term effect on air quality, because the total volume of these emissions would be extremely small in comparison with the amount of air emissions produced in the surrounding area.

As traffic volumes increase in the metropolitan Atlanta area, air quality- related impacts on park resources and visitor experience could occur under any of the alternatives. The Atlanta region is currently not meeting the air quality standards for ozone, which already affects the park. As regional traffic congestion continues to grow in the future, degraded air quality could affect park resources in as yet unidentified ways. Visitors to the park would experience similar effects inside or outside the park due to regional conditions. These would constitute a moderate, adverse, long- term cumulative effect.

There would not be any irretrievable or irreversible commitment of air quality resources with this alternative.

There would be no major, adverse impacts to air quality resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of the park's air quality resources or values.

Conclusions

The relative amount of air emissions of construction and operation produced under the Expanded Use Alternative would be higher than those produced under the No Action Alternative.

Because the relatively few new facilities would be constructed and operated, however, the overall effects on air quality would nevertheless be minor, adverse and long- term.

There would be no impairment of air quality as a result of park actions under this alternative.

IMPACTS OF THE EXPANDED USE ALTERNATIVE ON WATER RESOURCES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to natural resources are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Implementation of the Expanded Use Alternative would result in a greater relative amount of land disturbing activity for construction of roads, parking lots, trails and buildings in the park in comparison to the No Action Alternative. Under the Expanded Use Alternative, the relative amount of associated surface runoff and addition of impervious space would therefore be higher than that associated with the No Action Alternative. These levels of construction were estimated to have moderate, short- term and long- term adverse impacts on surface water hydrology, water quality, and aquatic resources in relation to the No Action Alternative. However, best management practices would be employed in all construction areas to control and minimize the amount and quality of runoff. These measures would include erosion control measures such as type C silt fencing in slopes greater than 3%, mulching, sedimentation ponds, and use of cocoa fiber and seeding of native grasses.

During operation under the Expanded Use Alternative, visitors would continue to use the park but would be allowed access in several developed zones. This would focus the majority of visitor activity in the developed zones, while still allowing for visitors to experience solitude and more passive experiences in the remaining areas of the park. Under the Expanded Use Alternative, potential adverse impacts on surface water hydrology, water quality, and aquatic resources related to trail use and recreation would be mitigated by implementing resource and other management plans. This would result in a major, beneficial long-term effect on surface water hydrology, water quality, and aquatic resources. New areas could also be added to the park under this alternative, providing additional levels of protection for water resources in the watershed. These combined actions and factors would result in a major, beneficial long- term effect on hydrology, water quality, and aquatic resources. Overall, because of the greater number of developed areas, the Expanded Use Alternative was estimated to have a moderate, adverse, long- term effect on water resources in the park.

Cumulative Impacts on Water Resources

The Expanded Use Alternative would involve the highest level of allowable construction of new facilities in the park, primarily in developed zones. However, because resource and other management plans would be developed and implemented, soil erosion from trails and other forms of visitor use would be minimized over the long term. This would result in a major, beneficial long- term cumulative effect on surface water hydrology, water quality, and aquatic resources. Visitor use would also be concentrated in the developed zones. The overall cumulative effects of construction and operation under this alternative were therefore estimated to be moderate, adverse, and long- term.

The cumulative effects of stormwater runoff from development outside the park on water resources inside the park would continue to increase under the Expanded Use Alternative, as it would under all of the alternatives. As the area surrounding the park becomes more and more developed, this problem would be expected to increase. This would constitute a major, adverse, cumulative long- term effect on surface water hydrology, water quality, and aquatic resources. This type of effect would occur under all of the alternatives because the park is located in a rapidly developing urban area. Because resource and other management plans would be developed and implemented, however, soil erosion from trails and other forms of

visitor use would be minimized over the long term. This would result in a major, beneficial long- term cumulative effect on water resources.

The growth in the area surrounding the park has already had a major adverse effect on fishing in the Chattahoochee River. This was identified as an issue during public meetings and workshops. However, this issue cannot be addressed by the park effectively because it is largely outside of the parks' control. Fish diversity and populations in the river vary in quality depending on the location along the corridor. The northern section below Lake Lanier is characterized by a relatively healthy fish community and is much less affected by nonpoint stormwater runoff as compared with the lower portion of park. However, during intense storms, even the northernmost sections of the river, except the area immediately below Buford Dam, are affected by runoff and sedimentation from the surrounding area. As the northern areas of the park corridor continue to grow, these effects on fish populations are expected to increase. Under the Expanded Use Alternative, there would be some chance for improving this situation because there would be more coordination and planning between the park service and local governments to control stormwater runoff. Partnering would be key to successful avoidance and minimization of cumulative effects from activities outside the park. As watershed management plans are implemented by local governments, controls should ultimately be put in place, and the fisheries of the river would hopefully improve over the long term. Currently this is not the case, however, and the river continues to be affected by stormwater runoff. The Expanded Use Alternative would provide an opportunity to help control these types of cumulative effects on fish through expanded partnering efforts.

There would be no irreversible or irretrievable commitment of the water resources of the Chattahoochee River and its tributaries under this alternative related to National Park Service actions.

Conclusions

The Expanded Use Alternative would have moderate, adverse, direct short- term and long- term impacts on surface water hydrology, water quality, and aquatic resources resulting from construction and maintenance activities. These would be of greater intensity than the effects on water resources resulting under the No Action Alternative.

Moderate, adverse, long- term direct effects on surface water hydrology, water quality, and aquatic resources resulting from surface runoff would also result during operation. Effects of operation on surface water hydrology, water quality, and aquatic resources would be greater than those produced by the No Action Alternative. The potential effects of construction and operation of park facilities would be mitigated by implementation of resource and other management plans inside the park as well as use of best management practices. This would constitute a major, long- term, direct beneficial cumulative effect.

Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by implementation of resource and other management plans in the park, as well as expanded coordination efforts with the surrounding communities, resulting in a major beneficial, long- term cumulative effects on water resources.

There would be no major, adverse impacts to water resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of the park's water resources or values.

IMPACTS OF THE EXPANDED USE ALTERNATIVE ON WETLANDS AND FLOODPLAINS

Regulations and Policy

The regulations and policies that guide NPS actions with respect to wetlands and floodplains are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

There would be a greater relative level of construction (such as boardwalks, or foot bridges, boat ramps, parking lots, limited roads, or small buildings) and maintenance activities that would occur under the Expanded Use Alternative than the No Action Alternative. New trails and other construction would be addressed and assessed in the form of individual tiered environmental assessments, and avoidance, minimization and compensation would have to be demonstrated prior to construction activity. However, these activities would still be limited, and the majority of construction would occur in the developed zones. The majority of the wetlands and floodplains in the park would therefore not be affected. Overall, construction activities under the Expanded Use Alternative were estimated to have minor, adverse, long- term direct effects on wetlands and floodplains in the park.

During operation of the park under the Expanded Use Alternative, existing levels of protection of wetlands and floodplains would be improved through development and implementation of resource and other management plans. More facilities would be operated under this alternative than under the No Action Alternative, however, and the potential for adverse effects on wetlands and floodplains would increase, resulting in minor, adverse, long- term effects. Where erosion occurs along informal trails or overused areas, these conditions would be reduced over time due to preparation and implementation of resource and other management plans. This would constitute have a moderate, beneficial, long- term effect on wetlands and floodplains under this alternative. Some new park areas could be added that could be used to protect several small wetlands and floodplains or a larger wetland/floodplain at a single location. This would also result in a moderate long- term beneficial effect on wetlands or floodplains. This alternative was therefore estimated to have, overall, minor, long- term adverse direct effects on wetlands or floodplains related to operation of the park.

Cumulative Impacts on Wetlands and Floodplains

Minor, adverse, long- term, cumulative effects on wetlands and floodplains inside the park would result from construction and operation of park facilities under the Expanded Use Alternative. Although this alternative would involve more new construction and increased maintenance activities in comparison with the No Action Alternative, floodplains and wetlands throughout the park would continue to be protected from direct disturbance from park construction projects through required environmental assessments tiered to the general management plan/environmental impact statement. Application of best management practices would help reduce risk to floodplain and wetland resources from polluted runoff, erosion, filling activities, or sedimentation from sources within the park.

During operation, this alternative would result in minor, adverse cumulative long- term impacts caused by runoff from paved areas and overall encroachment by visitors in wetlands and floodplains. However, these potentially adverse effects would be offset by implementation of resource and other management plans. These would lead to improved management of visitor access to wetlands and floodplains and control of erosion along trails and other areas, and would result in a moderate, beneficial, long- term effect on wetlands and floodplains.

Wetlands and floodplains located within the park would continue to be affected by sediments and water transported via runoff during increased storm water discharges originating from developed areas outside the park. This would constitute a long- term major adverse effect that is outside of the control of the park. This effect would be the same for all of the alternatives.

There would be no irreversible or irretrievable commitment of the wetland and floodplain resources under this alternative.

Conclusions

Implementation of the Expanded Use Alternative would result in minor, adverse long- term direct effects on wetlands and floodplains. The amount of facility construction and operation would be greater than the No Action Alternative, but development and implementation of resource and other management plans would result in a moderate, beneficial, long- term effect on wetlands and floodplains in the park. Cumulative impacts from stormwater runoff originating in developed areas outside the park would cause major, long-term adverse impacts on wetlands and floodplains, however, due to erosion and sedimentation during major storm events.

There would be no impairment of wetlands and floodplains as a result of park actions under this alternative.

IMPACTS OF THE EXPANDED USE ALTERNATIVE ON RARE, THREATENED AND ENDANGERED SPECIES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to rare, threatened and endangered species are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

The Expanded Use Alternative would result in higher levels of construction and more visitor use in developed zones in comparison with the No Action Alternative. The amount of construction and visitor use would be concentrated in eleven developed zones. The potential effect of construction activities of this alternative on protected species would be greater than all other alternatives. Some fragmentation of terrestrial habitat would occur, but because the number of projects would be few and localized, this direct effect would be minor. Under the Expanded Use Alternative, any construction project would require an environmental assessment that would include rare, threatened, and endangered species surveys, consideration of alternatives, and assessments of impacts. Therefore, impacts would be avoided or minimized to the greatest extent possible. The direct effects of construction of park facilities under this alternative on protected species was therefore estimated to be minor, adverse, and long- term. In addition, under the Expanded Use Alternative, resource, and other management plans would be developed and implemented, which would be beneficial to protected species. It would also be possible to acquire additional park areas. Both of these factors would result in a moderate, beneficial, long- term direct effect on protected species.

The location of numerous protected species of plants and animals in the park is known and documented by the Georgia Department of Natural Resources/Wildlife Resources Division surveys, as well as other park surveys. Definitive and detailed park- wide surveys have yet to conducted by the park, however. Until these surveys are completed, the park would rely on site-specific surveys for individual construction project sites to assess the potential for impacts on protected species.

During operation of the park, rare, threatened and endangered species would continue to be protected under the Expanded Use Alternative. New areas could be added to the park under the Expanded Use Alternative, and resource and other management plans would be prepared and implemented, which could result in long- term habitat improvements and expansion of existing efforts. These factors would result in a moderate, beneficial, long- term effect. Operation of the park under the Expanded Use Alternative was therefore estimated to have minor, adverse, long- term direct impacts on protected species.

There would be no irretrievable or irreversible commitment of resources as a result of implementation of this alternative.

Cumulative Impacts on Rare, Threatened and Endangered Species

The potential for cumulative effects of construction under the Expanded Use Alternative would be greater than the No Action Alternative. However, environmental assessments would be conducted for each proposed project, which would minimize the potential for cumulative impacts of projects in the park under the Expanded Use Alternative. There is a potential for long- term improvement of habitat for protected species under the Expanded Use Alternative since resource and other management plans would be developed and implemented. This would minimize the potential for exotic species to invade, and for habitats to be further improved and protected from increased visitor use. The park's rare, threatened and endangered species would continue to benefit from the protection the park affords. Area could also be added to the park. All of these factors would constitute a moderate, beneficial, long- term cumulative effect on protected species. The overall cumulative effect of the Expanded Use Alternative is therefore estimated to be minor, adverse, and long- term.

There would be no irreversible or irretrievable commitment of resources associated with the protected species or habitats under this alternative.

Conclusions

Implementation of the Expanded Use Alternative would result in overall minor, adverse, long- term direct and cumulative effects on rare, threatened and endangered species, since environmental assessments would be required for park projects, and resource and other management plans would be developed and implemented. New areas could also be added to the park and these could contain protected species. Efforts to document and protect rare, threatened and endangered species populations currently present in the park would continue to be maintained and potentially expanded. These factors would constitute moderate long- term beneficial direct and cumulative impacts. The overall direct and cumulative impacts on protected species were therefore estimated to be minor, adverse and long- term.

There would be no impairment of rare, threatened or endangered species habitats or values as a result of park actions under this alternative.

IMPACTS OF THE EXPANDED USE ALTERNATIVE ON TERRESTRIAL ECOLOGICAL RESOURCES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to terrestrial ecological resources are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

The Expanded Use Alternative would involve a greater relative level of facility construction and operation activities in comparison with the No Action Alternative due to the greater amount of land disturbing activity, primarily in the developed zones. Some fragmentation of terrestrial habitat would occur, but because the number of projects would be few and localized in eleven developed zones, this direct potential fragmentation effect would be minor. The vast majority of the park would be left in a relatively natural state. Prior to implementation of construction activities, the National Park Service would conduct a detailed site- specific survey of the terrestrial vegetation at the project sites, as part of tiered environmental assessments. The type, extent, maturity and ecological values of terrestrial habitats at each proposed site would be evaluated and the impacts of proposed projects would be assessed. to make a decision regarding the feasibility of the proposed site for construction and to avoid forested areas or other valuable habitats, as required by the National Environmental Policy Act. Minor, adverse, long- term, direct impacts on terrestrial resources could result from implementation of this alternative, since some trees and areas might be cleared for construction of park facilities, but the extent of habitat that would be disturbed would be limited. The option of locating facilities outside of the park would also be considered in these situations. Wildlife in the park that require deciduous forest habitats and riparian corridors in relatively

contiguous tracts would continue to benefit from the protection of most of the park's land area.

By locating facilities and educational resources/park information in the developed zones, it would be possible to inform a greater number of visitors than the other alternatives. Increased park staff proposed under this alternative would facilitate this increased level of communication about the park's resources and the need to protect them. This would result in a moderate, beneficial, long- term effect.

In addition, development and implementation of a resources and other management plans under the Expanded Use Alternative would have a moderate, beneficial long- term effect on terrestrial habitats in the park. Management plans would include measures to restore degraded habitats and means to control invasive species such as privet and English Ivy.

Cumulative Impacts on Terrestrial Ecological Resources

The activities associated with the Expanded Use Alternative would have minor, adverse, short- or long- term, cumulative impacts on terrestrial ecological resources because of the potential for increased level of facility construction and operation in developed zones. These effects would be spread over a wider area as compared to the No Action Alternative, but would be more effectively managed under resource and other management plans. With increased levels of visitor activity expected in the developed zones, an increased potential for visitor- related effects on habitats in the park would also exist. This could be offset by increased levels of effort concerning other management, restoration, education, and other agency coordination. These results of such efforts would be difficult to measure, but would be expected to result in moderate, long- term beneficial effects on terrestrial ecological resources in the park. In comparison with the No Action Alternative, the potential for cumulative effects on terrestrial ecological resources would therefore be less.

Ongoing urbanization in the surrounding region would continue to eliminate forest and wildlife species. Park management practices associated with the Expanded Use Alternative would have little effect on regional, development- related effects on the species in the surrounding area. Improved education and coordination elements of this alternative could provide beneficial effects, as increased awareness of these resources could generate interest in their protection outside the park as well.

There would be no irreversible or irretrievable commitment of terrestrial ecological resources under this alternative.

Conclusions

This alternative would result in a greater relative amount of land disturbance as compared with the No Action Alternative, but these impacts would be avoided and minimized because tiered environmental assessments would be required for each project. The construction phase of the Expanded Use Alternative would therefore have minor, adverse, short- and long- term direct and cumulative impacts on terrestrial ecological resources related to facility construction in the developed zones.

During operation, more visitors would be attracted to the park via the developed zones in comparison with the No Action Alternative, resulting in an increased potential for visitor- related damage to habitats. Tiered environmental assessments would also be required prior to selecting a site for a project, however, and impacts would be avoided and/or minimized to the extent possible. Development and implementation of resource and other management plans, increased education, coordination, and staffing levels would have major, long- term beneficial effects on these resources in the park. The overall direct effect of the Expanded Use Alternative on terrestrial ecological resource was therefore estimated to be minor, adverse and long- term.

There would be no impairment of terrestrial ecological resources as a result of park actions under this alternative.

IMPACTS OF THE EXPANDED USE ALTERNATIVE ON PRIME AND UNIQUE FARMLANDS

Regulations and Policy

The regulations and policies that guide NPS actions with respect to prime and unique farmlands are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Proposed National Park Service projects in the park could impact prime and unique farmlands, all of which are located north of McGinnis Ferry Road. The Expanded Use Alternative would have the highest overall relative potential to impact these resources, since this alternative would involve a greater amount of construction, maintenance and operation activities in comparison with the No Action Alternative. The overall direct effect of construction activities completed under the Expanded Use Alternative on prime and unique farmland, however, would be minor, adverse and long- term, since soil erosion would also be minimized in the vicinity of these soils types using best management practices, site specific environmental assessments would be completed, and resource and other management plans would be developed and implemented.

The potential direct effects of park operation on prime and unique farmlands under the Expanded Use Alternative would be minor, adverse and long-term, since visitor activities would include more active forms of recreation over a wider area of the park. Development and implementation of resource, trails and other plans, however, would focus these activities in developed zones, thereby avoiding possible effects on prime and unique farmlands.

Cumulative Impacts on Prime and Unique Farmlands

This alternative would involve a greater relative level of construction and maintenance in the park, and somewhat more active forms of recreation over a wider area of the park. Should a project be proposed that would affect prime and unique farmlands in the future, a site specific environmental assessment would be completed, and the impacts would be further addressed. Resource and other management plans would also be developed and implemented, which would allow for avoidance of potentially adverse impacts on prime and unique farmlands. The cumulative adverse effects of the construction, maintenance and operation activities within the park on prime and unique farmlands under the Expanded Use Alternative would therefore be minor, adverse, and long- term.

In contrast, the cumulative effects of development in the area surrounding the park on prime and unique farmlands would be moderate, adverse and long- term under this alternative. These effects are related to the impacts of increased surface water runoff from the rapidly developing surrounding area. These effects are largely outside of the park's direct control.

There would be no irreversible or irretrievable commitment of prime and unique farmland resources under the Expanded Use Alternative.

Conclusions

The amount of construction proposed within the park would be the greater in comparison with the No Action Alternative, and concentrated in several developed zones. However, potential adverse impacts on prime and unique farmlands would be avoided and minimized by preparation of site-specific environmental assessments that would identify such resources. Resource and other management plans would also be implemented, resulting in inventorying of these resources. The Expanded Use Alternative would therefore have minor, adverse direct and cumulative long- term impacts on prime and unique farmlands. In contrast, development in the area surrounding park would have moderate adverse, long- term impacts on prime and unique farmlands. These effects that are largely outside of the park's direct control.

There would be no impairment of prime and unique farmlands as a result of park actions under this alternative.

IMPACTS OF THE EXPANDED USE ALTERNATIVE ON CULTURAL RESOURCES

This section describes the methods used, analysis of effects conducted and conclusions drawn for archeological resources and historic buildings, structures and objectives.

IMPACTS OF THE EXPANDED USE ALTERNATIVE ON ARCHEOLOGICAL RESOURCES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to archeological resources are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

As discussed in the "Affected Environment" section, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Any ground- disturbing activities associated with the Expanded Use Alternative would therefore have the potential to affect such sites.

Until a National Register of Historic Places evaluation for any site was completed, it would be assumed that the site is eligible for listing on the register. Therefore, until proven otherwise, disturbance to any archaeological site that was discovered during the survey, design, or construction of any facilities under the Expanded Use Alternative would be considered an adverse effect. The Expanded Use Alternative includes a greater amount of construction relative to the No Action Alternative; accordingly, the Expanded Use Alternative has the higher relative potential for construction- related adverse effects to archeological resources. For purposes of this general management plan/environmental impact statement, the overall direct impact of the Expanded Use Alternative on archeological resources was estimated to be moderate, adverse and long- term.

As described in the section entitled "Servicewide Mandates and Policies," the National Park Service is required to protect archaeological resources within the park. Therefore, prior to undertaking any construction activities under the Expanded Use Alternative, the National Park Service would conduct a tiered environmental assessment, and:

- Conduct cultural resources surveys of areas to be disturbed, including trail alignments
- Identify all archaeological resources that are discovered during the surveys
- Systematically inventory each site to determine and document its significance to support its evaluation for National Register of Historic Sites eligibility
- Determine eligibility in concert with the Georgia State Historic Preservation Officer and Advisory Council on Historic Preservation
- Relocate any facilities that would disturb National Register of Historic Sites - eligible sites

The collection of data to support the eligibility evaluation, and the determination of eligibility can be time consuming. Therefore, as a timesaving approach, the National Park Service would assume that any archaeological site that is discovered is eligible for listing, and would relocate the facility to be constructed to avoid that site. This approach would substantially reduce the potential for construction- related adverse effects to archaeological resources.

Under any alternative, the integrity of some sites would be degraded by natural processes such as wind and water erosion, or by vandalism or inadvertent damage by visitors. By establishing seven cultural resource zones, the Expanded Use Alternative provides more protection, monitoring, and interpretation of archeological sites than the No Action Alternative. By establishing cultural resource zones, and by increasing monitoring, numbers of rangers, and education programs, as well as implementing a cultural resources management plan and a collections management plan, the Expanded Use Alternative provides greater protection and monitoring of a subset of

the archaeological resources within the park compared to the No Action Alternative. This alternative would therefore help avoid and minimize adverse impacts on archeological resources.

Public/private partnership created under the Expanded Use Alternative may provide greater stewardship of resources within the park; however, the level of protection from natural degradation and vandalism provided by such stewardship is difficult to assess. The increased development associated with the Expanded Use Alternative by comparison to the No Action Alternative, would increase the potential for visitor- related impacts and vandalism compared to the No Action Alternative because additional acreage would be developed and accessible.

Cumulative Impacts

During construction, the Expanded Use Alternative has a potential to impact archeological resources at virtually any site that is cleared. The cumulative effects of all construction activities under this alternative within the park could therefore be greater than the No Action Alternative. For purposes of this general management plan/environmental impact statement, therefore, the overall cumulative impact of the Expanded Use Alternative on archeological resources was therefore estimated to be moderate, adverse and long- term.

Prior to undertaking any construction activity, however, the National Environmental Policy Act requires completion of an archeological survey and an estimate of potential adverse impacts. Adherence to these procedures would assure that the construction activities would not have adverse cumulative impacts on archeological resources in the park.

During operation, archeological resources could be impacted by human disturbance. Taken collectively over the length of the park, these cumulative impacts could be adverse and long- term. The Expanded Use Alternative has a greater potential for this to occur in comparison with the No Action Alternative since the level of visitor use and construction activities within the park would be greater. However, a cultural resources management plan and a collections management plan would be prepared under this alternative that would be designed to preserve and protect these resources, unlike the No Action Alternative. This would constitute a beneficial long- term impact.

Where sites were disturbed, such as the discovery of a site during construction, data recovery and preservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archaeological resources.

Conclusions

Archeological resources in most of the Atlanta area have been disturbed or eliminated during the construction of the city and surrounding suburban and developed areas. Therefore, improvements to, and preservation of, archaeological sites within the park is important on a regional level, as these resources represent former conditions throughout the area. The identification and systematic inventory of archeological resources in the cultural resources zones during the implementation of the Expanded Use Alternative offer an opportunity to add to the knowledge of the prehistory and history of both the park and the entire vicinity. This constitutes a major, long- term beneficial impact on archeological resources.

The increased amount of construction and development proposed under the Expanded Use Alternative would result in greater construction-related and visitor- related adverse effects to archeological sites within the park than the No Action Alternative. Similarly, the Expanded Use Alternative offers less direct protection, inventory, and interpretation of archeological sites within the park in comparison with the No Action Alternative. Despite the increased amount of data recovery and preservation efforts associated with the increased construction, these efforts would only partly mitigate impacts. The disturbance from construction, inadvertent visitor damage, and vandalism could result in some irretrievable and irreversible loss of archaeological resources. This could constitute a major, adverse long- term effect. Development and implementation of a cultural resources management plan and a collections

management plan would help reduce, avoid or mitigate these potential impacts. The overall direct and cumulative adverse effects of this alternative on archeological resources were therefore estimated to be moderate and long- term.

Prior to disturbing any site for construction, detailed National Environmental Policy reviews would be required as part of tiered environmental assessments. The National Environmental Policy Act requires avoidance and minimization of adverse impacts on cultural resources.

There would be no major, adverse impacts to archeological resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of the park's archeological resources or values.

IMPACTS OF THE EXPANDED USE ALTERNATIVE ON HISTORIC BUILDINGS, STRUCTURES AND OBJECTS

Regulations and Policy

The regulations and policies that guide NPS actions with respect to historic buildings, structures and objects are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

The Expanded Use Alternative establishes seven cultural resources zones, in contrast with the No Action Alternative, which not provide any. The seven cultural resource zones established as part of the Expanded Use Alternative encompass a portion of the National Register of Historic Places- listed or National Register of Historic Places- eligible historic buildings, structures or objects in the park; the exceptions being resources located in the Fort Peachtree and Island Ford Units. As a result, implementation of the Expanded Use Alternative would result in more resource protection than the No Action Alternative.

Similarly, because cultural resources in cultural resource zones are documented and interpreted, the implementation of the Expanded Use Alternative has a comparatively greater potential for preservation and interpretation of historic buildings, structures and objects than the No Action Alternative.

The Expanded Use Alternative offers slightly greater protection from degradation, vandalism or inadvertent damage by visitors to resources located outside of the cultural resources zones or due to increased monitoring and ranger staffing levels as compared to the No Action Alternative. It is assumed that an increase in park staff would be common to all action alternatives.

Overall, in comparison to the No Action Alternative, the Expanded Use Alternative has a greater relative potential to affect historic buildings, structures or objects, and moderate impacts are possible. The overall potential direct and cumulative effect of this alternative on historic buildings, structures and objects was therefore estimated to be moderate, adverse and long- term.

Cumulative Impacts

In comparison with the No Action Alternative, the Expanded Use Alternative would have a greater potential to produce adverse cumulative effects on historic buildings, structures and objects because the extent of construction activities would be the more extensive. Land clearing activities would occur in eleven developed zones, but all construction would have to adhere to the requirements of the cultural resource and other management plans. Cumulative adverse impacts would be reduced or avoided as a result of increased monitoring, education and an increase in park staff as compared to the No Action Alternative. This alternative was therefore estimated to have moderate, adverse, long- term cumulative effects on Historic Buildings, structures and objects.

In comparison with the No Action Alternative, during construction, the Expanded Use Alternative

has the greatest potential to impact historic buildings, structures and objects at virtually any site that is cleared. The cumulative effects of all construction activities under this alternative within the park could therefore be adverse and long- term. Prior to undertaking any construction activity, however, the National Environmental Policy Act requires completion of a survey and an estimate of potential adverse impacts. Adherence to these procedures would assure that the construction activities would avoid or minimize any adverse cumulative impacts on historic buildings, structures and objects in the park. In addition, a cultural resources management plan and a collections management plan would be prepared and implemented under this alternative that would be designed to preserve and protect these resources. The overall cumulative effect of this alternative on historic buildings, structures, and objects was estimated to be moderate, adverse, long- term.

During operation, historic buildings, structures and objects could be impacted by human disturbance. Taken together over the length of the park, these cumulative impacts could be adverse and long-term. The Expanded Use Alternative has a higher relative potential for this to occur, however, since the level of visitor use and construction activities within the park would be greater than the No Action Alternative. A cultural resources management plan and a collections management plan designed to preserve and protect historic buildings, structures and objects would also be developed and implemented under this alternative. Protection and rehabilitation of these resources by this alternative as compared to the No Action Alternative would have a major, beneficial effect in preserving them for the future.

Disturbance of historic buildings, structures and objects during construction and operations could result in some irretrievable and irreversible loss of cultural resources.

Conclusions

The park contains a variety of historic buildings, structures and objects that are significant to the historical development of the Chattahoochee River Valley and the greater Atlanta area. Some of these resources are among the last remaining examples of their construction types in the region. This alternative is estimated to have moderate, adverse, long- term effects on historic buildings, structures and objects in the park, since some areas could be impacted during construction and operation of park facilities. The Expanded Use Alternative's protection and rehabilitation of these resources would have a major beneficial effect in preserving them for the future. The potential for adverse effects associated with implementation of the Expanded Use Alternative – increased construction- related and visitor- related impacts – are considered to be greater than those associated with the No Action Alternative. Under the Expanded Use Alternative, the historic buildings, structures and objects in the park would be afforded protection and preservation treatment through the development and implementation of systematic integrated inventory, research, and preservation plans in the seven cultural resources zones as well as development and implementation of a cultural resources management plan and a collections management plan. Rehabilitation of historic structures would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance with park resource values. This would be long- term beneficial effect.

There would be no major, adverse impacts to resources and values associated with historic buildings, structures and objects whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of the resources or values associated with the park's historic buildings, structures and objects.

IMPACTS OF THE EXPANDED USE ALTERNATIVE ON TRANSPORTATION

Regulations and Policy

The regulations and policies that guide NPS actions with respect to transportation resources are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Under the Expanded Use Alternative, about 85 percent of the park would be relatively accessible to visitors through the developed zone (4.7%), natural area recreation zone (74%) and cultural resource zone (6.8%). However, only a very small percentage of each of these zones would actually be used for construction of transportation related facilities such as roads and parking lots. The urban primitive zone would comprise about 14% of the park acreage, and there would be no designated pristine river zone. Under this alternative, access would be dispersed throughout the 48- mile corridor at strategic locations. This would facilitate bicycle and pedestrian access to the park, and could reduce travel distances for vehicle trips. However, the Expanded Use Alternative would result in a greater incidence of congested roadways along the park corridor and the traffic generated by this would add to the traffic congestion in the area (Table 30). As compared to the No Action Alternative, more facilities would be constructed and operated under the Expanded Use Alternative. This would result in increased numbers of trips made by visitors to the park, and a relatively higher degree of transportation impacts as compared with those produced by the No Action Alternative (Table 30). The majority of the long- term impacts on transportation are projected to be moderate (Table 30). However, detailed site- specific transportation analyses would be conducted as part of tiered environmental assessments for future proposed projects and measures to minimize or reduce impacts would be developed. As part of these environmental assessments, possible site-specific traffic solutions such as traffic calming measures or altered flow patterns at park access points would be identified. This would result in improved localized conditions, which would be considered moderate, beneficial, long- term effects on transportations systems associated with the park. The overall adverse impacts of the Expanded Use Alternative are defined as being moderate and long- term as a result of these factors.

The Expanded Use Alternative would have a greater relative amount of paved and unpaved trail construction in the park in comparison to the No Action Alternative. Visitors would use the developed zones most frequently, and the rest of the park would still be available for hiking on trails or other uses. An integrated trails system plan would also be developed and implemented, which would result in a major, beneficial, long- term effect on the trail system and associated visitor experience. Use of informal trails in the park would decrease over time as the integrated trail system plan is implemented. The overall visitor experience would be greatly improved, since trails would be effectively designed and maintained. As a result of all of these factors, the Expanded Use Alternative would have a major, long- term beneficial effect on paved and unpaved trails in the park.

An integrated trails system plan would be developed and implemented under the Expanded Use Alternative, and efforts to increase connectivity with trails systems being developed in the areas surrounding the park by other organizations and local governments would be greatly increased. This would constitute a major, beneficial, long- term effect on the ability to develop improved connectivity with the surrounding communities.

The primary form of nonmotorized transportation in the park is the bicycle. The Expanded Use Alternative would have a moderate, beneficial long- term effect on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be considered appropriate in more areas under this alternative than under the No Action Alternative. More bicycle trails would be available under this alternative since the Expanded Use Alternative emphasizes both passive and active forms of recreation.

The Expanded Use Alternative would result in more opportunities for bicycle use, and would therefore pose a higher potential for creating problems with erosion. However, these potential

effects would be addressed and in an integrated trails system plan that would be prepared and implemented. This would constitute a moderate, beneficial, long- term effect. Overall, the Expanded Use Alternative was therefore estimated to have a moderate, adverse, long- term effect on erosion and water quality degradation associated with bicycle use. These potential effects would be offset, however, by development and implementation of resource, trail and other management plans that would manage bicycle use effectively in the park.

Cumulative Impacts

Regional growth in the counties in the metropolitan Atlanta area is the primary reason for the projected increases in traffic volumes around the park. No matter which management actions are taken in the park, traffic in the region is expected to continue to increase in the future. The cumulative effects of the Expanded Use Alternative on transportation in the park and on the surrounding region would be moderate, adverse and long- term, based on the data presented in Table 30. Areas currently experiencing congestion would be expected to continue to do so in the future if planned improvements do not take place.

Under the Expanded Use Alternative, the cumulative amount of use of paved and unpaved trails would be greater in comparison with the No Action Alternative. Paved and unpaved trails throughout the park would be carefully managed under an integrated trails system plan, however, which would offset these potential adverse effects. This would constitute a moderate, beneficial, cumulative long- term effect, since these effects would extend throughout the park. The overall cumulative effects of the Expanded Use Alternative on the use of paved and unpaved trails throughout the park were therefore estimated to be moderate, adverse, and long- term.

An integrated trails system plan would be developed and implemented under the Expanded Use Alternative, and efforts to increase connectivity with trails systems being developed in the area surrounding the park by local governments would be increased throughout the park as a result. This would constitute a major, beneficial, long- term cumulative effect.

The Expanded Use Alternative would have a moderate, beneficial cumulative long- term influence an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be appropriate in more areas of the park under this alternative. Potential impacts of bicycle trail use would be considered in a trail system management plan that would be developed and implemented.

The cumulative effect of off- road bicycle use on water quality and soil erosion would be moderate, adverse and long- term, since the total amount of bicycle use would be greater than the No Action Alternative. Potential cumulative effects of bicycle use on water quality caused by erosion would be mitigated by implementation of best management practices and efficient design and maintenance standards that would be included in an integrated other management plan.

There would be no irreversible commitment of resources associated with transportation with this alternative. Limited amounts of nonrenewable resources would be used for maintenance of roadways and paved trails, including energy and materials. These resources would be irretrievable once they were committed.

Conclusions

The Expanded Use Alternative would result in a greater level of construction and operation of more facilities, and provide greater access throughout the park corridor in comparison with the No Action Alternative. These effects would be offset by development and implementation of resource and other management plans. The overall direct effect on transportation would be moderate, adverse, and long- term.

Transportation and traffic problems in the park and surrounding area would continue to increase under any of the alternatives, since traffic and transportation patterns and characteristics are largely controlled by factors outside the park. Overall, the Expanded Use Alternative would have moderate, adverse, long- term direct and cumulative effects on transportation and traffic in the park and surrounding area, due to traffic congestion. A number of the roadways that could

be impacted by increased activity at various areas of the park are either scheduled for improvement in the near future or are planned for improvement by 2025. In certain areas, roadways that are currently congested are not planned for improvement, but an alternate facility has been planned, such as the Morgan Falls Bridge. These types of projects could help to relieve localized congestion.

The Expanded Use Alternative would have moderate, long- term direct and cumulative adverse impacts on paved and unpaved trails in the park, since more new trails would be constructed in comparison with the No Action Alternative. An integrated trails system plan would be completed, and efforts to improve connectivity with the surrounding areas would be improved under this alternative. This would result in moderate, beneficial, long- term direct and cumulative effects.

The Expanded Use Alternative would result in more opportunities for bicycle use in comparison with the No Action Alternative. An integrated trails system plan would also be developed and implemented, and erosion associated with off- road bicycle use would decrease over current levels in the park. This would result in moderate, beneficial, long- term direct and cumulative effects on water quality in the park. The overall effects of the Expanded Use Alternative on erosion and water quality degradation related to bicycle use would therefore be moderate, adverse long- term direct and cumulative.

IMPACTS OF EXPANDED USE ALTERNATIVE ON VISITOR AND COMMUNITY VALUES

Regulations and Policy

The regulations and policies that guide NPS actions with respect to visitor and community values are presented in the "Servicewide Mandates and Policies" section of this document.

Analysis

Visitor Experience — Under the Expanded Use Alternative, visitors would be provided with the greatest opportunity for facilitated experience in numerous locations of the park in comparison with the No Action Alternative. Approximately 85% of the park would be designated as natural area recreation zone, cultural resource zone, and developed zone under this alternative. No pristine river zones would be established under this alternative, and 14.38% of the park would be designated as urban primitive zone.

In the developed zones (4.68% of the park acreage under this alternative), visitors would experience relatively low levels of solitude and isolation. This alternative would also provide visitors with the lowest relative degree of challenge and risk with respect to outdoor activities, and would require a relatively low to moderate knowledge of outdoor recreation skills. In comparison with the No Action Alternative, a greater relative amount of facilitated forms of visitor experience such as nature and environmental education would be available in the developed zones located along the length of the park under this alternative as compared to the No Action Alternative. Increased visitor and administration/operations facilities would enhance educational and interpretive experiences and options compared to the No Action Alternative. Visitors would experience more encounters with other people under this alternative.

This alternative would have a moderate, adverse, long- term effect on visitors who value solitude and isolation, and it would have a major, beneficial effect on visitors who value more facilitated experiences and park use compared to the No Action Alternative.

Recreational Opportunity — In comparison with the No Action Alternative, the Expanded Use Alternative would provide visitors with the lowest relative potential for experiencing solitude and isolation, and an expanded opportunity for more active forms of recreation experiences such as bicycling, horseback riding, and walking and hiking. Compared to the No Action Alternative, this alternative would provide more trails in the park that are connected with trails outside the park. Approximately 74% of the park would be zoned to emphasize more active forms of recreation, with more acreage designated as natural area recreation zone. The total amount of developed zone would be limited to 4.68% of the

total park acreage, where buildings, roads, parking lots, trails, and other facilities, would be considered appropriate. Only a small portion of the developed zone, however, would actually be disturbed.

Under this alternative, opportunities for enjoying relatively quiet stretches of the river would still be available, but to a lesser extent that would be available under the other two action alternatives or the No Action Alternative because there would be no designated pristine river zone. Large portions of the park corridor would still be available for photography, watching wildlife, and other passive visitor experiences. This alternative would have more facilities and associated recreational opportunities as compared with the No Action and the other two action alternatives.

This alternative would have a moderate, adverse, long- term effect on visitors who value solitude and isolation, and it would have a moderate, beneficial, long- term effect on visitors who value more active forms of recreation, increased park access points and a more social experience.

Numbers and Types of Visitor Facilities — The Expanded Use Alternative would result in the construction and operation of more new visitor facilities in the park in comparison with the No Action Alternative. Developed zones would provide visitors with convenient access to the park in the form of roads, parking lots, unpaved trails, trail heads, restrooms, interpretive facilities, and kiosks. In areas between developed zones, visitors could still experience serenity and peace of mind, wildlife viewing, walking and observing nature. However, under the Expanded Use Alternative, fewer of these areas would be available in comparison with the No Action Alternative. Visitors seeking river experiences would have boat launch access for their rafts, canoes, and boats distributed strategically along the park corridor. A pristine river zone would not be included under this alternative. The overall effect on visitor experience and values would be an increased availability of facilitated experience in developed zones, while still providing opportunities for isolation and solitude in other areas of the park.

Analysis of population projections in the study area indicates that residential growth is expected to continue near the Chattahoochee River National Recreation Area. For this reason, visitor use is projected to increase under the Expanded Use Alternative. A number of new facilities, parking areas, and roads would be associated with the developed zones along the length of the park corridor. Increased levels of park staff would provide increased opportunities for ranger contact with visitors and availability to conduct environmental and educational programs and interpretive activities. The rangers would be more effectively dispersed, however, in comparison with the No Action Alternative.

This alternative would have a major, beneficial, long- term effect on visitors who value a more facilitated experience and a greater variety of and access to recreational opportunities. It would have a major, adverse, long- term, effect on visitors who value isolation and solitude and a less facilitated experience.

Traditional Character— The traditional character of the park would be maintained under the Expanded Use Alternative through changes in management policy, to include development and implementation of resource and other management plans. These changes would include increased communication with visitors, and education programs, and public/private partnerships designed to improve the visitor's understanding and appreciation of the natural and cultural resources in the park, and to allow for improved management and protection of park resources in comparison with the No Action Alternative. Visitors would have access to a variety of established recreational activities described in the "Affected Environment" section.

Under the Expanded Use Alternative, the potential to develop a more diverse and intense system of visitor information programs, education programs, and public/private partnerships would be greater than the No Action Alternative. Since the park would more effectively identify and manage the protection and preservation of natural and cultural resources, the Expanded Use Alternative would have a major, beneficial, long- term effect on traditional character and experiences in the park. However, this alternative also has a simultaneous potential for having a minor to moderate adverse

effect on traditional park character, since this alternative would involve a greater relative degree of constructed facilities and the highest rates of dispersed visitation. Under these circumstances, the traditional character of the park, including a higher degree of isolation and solitude, experiencing the natural river environment, and similar values, would not be as achievable as compared to the No Action Alternative.

Under the Expanded Use Alternative, none of the proposed park actions would cause conflicts with land use plans, policies, or controls. New park areas could be added under this alternative, but these additions would be agreed to by willing sellers and the National Park Service. In addition, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls ion the surrounding areas. Development would be limited to eleven developed zones along the entire 48- mile park. Within these zones, only a fraction of the area would be developed for park facilities.

Cumulative Impacts

Growth in the area and pressure to use the park for more active and varied forms of visitor use would increase under all of the alternatives, putting pressure on the park to provide a wider range of visitor experiences. Under the Expanded Use Alternative, the park would provide developed zones that would concentrate visitor activity at a few selected locations. The operation of several new facilities in developed zones would remove those areas for use by visitors who prefer isolation and solitude, but would promote a wider variety of visitor experience, for example, access to a boat ramp or an interpretive facility. This would constitute a major, beneficial, long- term cumulative effect on visitor experience. The developed zones could also include educational facilities (building/kiosks) and centralized access to park rangers and information about park resources that would benefit the community. The intensity of the cumulative effect on visitor experience would therefore be less under this alternative as compared with the No Action Alternative, because there would be developed zones and a wider variety of visitor experiences would be provided. This alternative would therefore result in minor, adverse, long- term cumulative effects on visitor experience.

Potential adverse cumulative effects on visitor experience associated with the Expanded Use Alternative would be offset by major, beneficial, long- term cumulative effects associated with the development and implementation of expanded education and outreach programs in the park, and resource and other management plans.

Growth in the surrounding area would cause increased pressure on the park to provide more active forms of recreation. In comparison to the No Action Alternative, the cumulative effect of the Expanded Use Alternative would be of lower intensity because it could accommodate the widest variety of recreational opportunities. Consequently, these effects were estimated to constitute minor, adverse, long- term effects on recreational experience. Development and implementation of resource and other management plans would tend to offset potential adverse cumulative effects on recreational opportunities.

Growth in the surrounding area would have a moderate, adverse, long- term cumulative effect on the ability of park management to operate, repair and maintain facilities. Pressure to build more new facilities of different types would also increase cumulatively as growth in the area around the park increases. However, the park could accommodate this situation to some extent because some new facilities would be allowed to be constructed in the developed zones. Because this alternative features developed zones and a greater variety of visitor experience and recreation, this would constitute a minor, adverse, long- term cumulative effect on the numbers and types of park facilities constructed and operated in the park.

Growth in the surrounding area would have a moderate, adverse, long- term, cumulative effect on the traditional character of the park, as pressure for more active forms of recreation increase, and levels of encroachment around the boundaries of the park increase. The relative intensity of the cumulative effect of growth on traditional character of the park would be less than that associated with the No Action Alternative, however, since this alternative can accommodate a

wider variety of visitor experiences and recreational activities. Since these would be centered in the developed zones, the traditional character of the park would be maintained in the majority of the park. In the developed zones, impacts on the traditional character of the park would be minimized through proper site design and location of the developed zones. Some facilities may even be located in urbanized areas outside the park. The overall cumulative effect of this alternative on traditional park character was therefore estimated to be minor, adverse and long-term. Implementation of increased numbers and varieties of education and outreach programs and resource and other management plans would offset potential cumulative effects of growth on traditional character of the park. These programs and plans would result in major, beneficial, long-term cumulative effects on the traditional character of the park.

Under the expanded park boundaries, the park would not only continue to provide significant contributions in terms of regional green space and recreational opportunities, but increase those opportunities as financial resources allow.

Conclusions

The Expanded Use Alternative would have beneficial or adverse effects on the visitor's recreational experience depending on each person's individual values. The Expanded Use Alternative would provide a major beneficial effect on visitors who value some degree of developed facilities, while simultaneously being able to also have access to and enjoy natural areas of the park. This alternative would have a minor, adverse, long-term, direct effect on visitors who value solitude and isolation since the provision of facilities would draw people to the developed zones. Under the Expanded Use Alternative, visitors could experience solitude in the majority of the park, but would also be provided with other types of experiences and facilities primarily located in the developed zones. A greater relative number and diverse of park facilities would be available to visitors under the Expanded Use Alternative in the developed zones in comparison with the No Action Alternative. The more efficient and cohesive working environment that this alternative would provide for park staff, and dispersed park ranger presence would result in better service to park visitors throughout the park. Compared to the No Action Alternative, there would be additional types of recreational experiences, easier access to trailheads and the river, while simultaneously providing the opportunity for isolation and solitude in other areas of the park.

Improvement to visitor facilities and facilities used for administration and operations would enhance educational and interpretive experiences as compared to the No Action Alternative.

SUSTAINABILITY AND LONG- TERM MANAGEMENT

The National Environmental Policy Act (sec. 101 (b)), and the National Park Service Organic Act require an assessment of the potential of each alternative to produce long- term impacts and the potential of foreclosing future options that are available to the National Park Service with regard to managing each park. An alternative is required to allow for sustainable development, which is defined as an action that meets the needs of the present without compromising the ability of future generations to meet their needs (*World Commission on Environment and Development* in National Park Service 2001a). This section addresses the following three components of the sustainability assessment.

The Relationship Between Local Short- Term Uses of The Environment and The Maintenance and Enhancement of Long- Term Productivity - National Environmental Policy Act (sec. 102 (c) (iv))

Existing problems related to growth in the surrounding urban and suburban area and watershed are likely to continue with the growth in population, putting additional pressures on the natural and cultural resources in the park. As demand for recreation in the park grows, the long-term protection and enjoyment of park resources could be jeopardized. Despite implementation of a management strategy to provide more comprehensive protection of cultural and natural resources, there would likely continue to be

instances where resources are disturbed by visitors exploring these sites. These impacts would be avoidable only if human use were not allowed in the park. Mitigation measures would be taken where possible to reduce these impacts. Improving the management of natural and cultural resources, along with enhancing research and education activities within the park, and establishing public/private partnerships would contribute to the long- term protection and preservation of resources. Increased coordination with local agencies and other agency cooperative initiatives for resource and use management would further enhance resource protection and preservation. The development of new facilities would support the National Park Service mission while avoiding adverse cumulative impacts to ecosystems or resources. Short- term degradation of local water quality during construction projects would largely be prevented by best management practices. Short-term localized soil erosion (largely prevented by best management practices) and degradation of plant communities along trail construction corridors would be offset by long- term reductions in soil erosion resulting from the repair or realignment of poorly designed or damaged trails.

Any Irreversible or Irretrievable Commitments of Resources That Would Be Involved If The Alternative Were Implemented - National Environmental Policy Act (sec. 102(c)(v))

The National Environmental Policy Act and the National Park Service define irreversible impacts as those effects that cannot be changed over the long term or are permanent (National Park Service 2001a). An effect to a resource is irreversible if the resource cannot be reclaimed, restored, or otherwise returned to its condition before the disturbance. An irretrievable commitment of resources refers to the effects to resources that, once gone, cannot be replaced. There would be a potential for irreversible or irretrievable commitments of cultural resources under the Expanded Use Alternative. The implementation of a management strategy to provide comprehensive protection of cultural resources along with other natural resource protection measures would further reduce but not entirely eliminate the risk that visitors might disturb these resources. In addition, limited amounts of nonrenewable resources would be used for construction of projects and park operations, including energy and materials. These resources would be irretrievable once they were committed. Financially, the Expanded Use Alternative would require funding to accomplish its goals.

Any Adverse Impacts That Could Not Be Avoided If the Action Were Implemented - National Environmental Policy Act (sec. 101(c) (ii))

The National Environmental Policy Act and National Park Service policy define adverse impacts as those that cannot be fully mitigated or avoided. Where construction activities disturbed cultural resource sites, data recovery and conservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archeological resources. There would be unavoidable adverse impacts on natural and cultural resources under the Expanded Use Alternative as a result of the increasing development outside the park that, with limited resources, tax the park staff's ability to effectively carry out resource protection measures. Mitigation measures would be taken, where resources allow, to reduce these impacts. In addition to the above unavoidable impacts, staff increases and increased facility support would require additional operational funding.

RECOMMENDATIONS FOR FUTURE PLANNING EFFORTS

Several issues are of concern to park managers and visitors at the Chattahoochee River National Recreation Area that are not fully addressed in this General Management Plan due to lack of detailed existing information. The General Management Plan provides some direction and lays the groundwork for addressing these issues; however, future implementation plans will provide specific directions and actions that address these issues. These more detailed implementation plans will describe how the National Park Service will achieve the desired conditions outlined in the General Management Plan. Opportunities for public input would be provided during the development of these implementation plans.

Cultural Resources

Unmanaged visitor use at archeological or historic sites may impact the integrity and scientific and cultural value of these sites. The nature and extent of these impacts is difficult to assess because baseline data on site conditions in the park are often unavailable or incomplete. In recent years, park staff have begun to locate park resources for evaluation purposes. Long- term protective strategies are needed for significant sites to avoid impact by visitors and/or park management activities. Park managers must maintain historic buildings on an ongoing basis (i.e., periodic maintenance and rehabilitation) to ensure that conditions are suitable for National Register eligibility. A resource management plan would address these issues.

The park's museum collections are maintained at the Southeast Archeological Center. In addition, some collections are held at the park. A Collections Management Plan would address collections for the park in a comprehensive manner.

Natural Resources

Impacts on water quality and terrestrial resources have occurred in parts of the park due to recreational use, pipeline crossings, and development outside the park. Changes in water quality and water flows may have major effects on park resources and visitors, as documented in the existing water resources management plan. The park is currently implementing recommendations from this plan. Sensitive habitats and species have not been thoroughly identified throughout the park. Long- term protective strategies are needed for these species and habitats to avoid impact by visitors and/or park management activities. Protection, study, and management of the park's natural resources and processes are essential for achieving the park's purposes and mission. A park wide resource management plan will address these issues and other scientific and legal requirements to promote understanding and management of park resources. This management plan would provide details on the strategies and actions necessary to address the park's most important resource management problems and research needs.

Fisheries Management

The Chattahoochee River is a popular fishing destination and is perhaps the most southern trout fishery within the nation. The State of Georgia has an active stocking program within the river. The primary stocked species are rainbow and brown trout, both not native to the Chattahoochee River. Water released from Buford Dam is colder that what would occur naturally. This is due to releases of cold water from bottom layers of Lake Lanier. This cold- water release downstream of Buford Dam creates the ability to sustain an exotic trout fishery. It is believed that many of the native fish species within the main stem of the river have been greatly impacted or extirpated due to the unnaturally cold temperatures resulting from the operation of Buford Dam.

National Park Service Management Policies provide some guidance in fisheries management, and these policies, in concert with cooperative efforts with the State of Georgia should be outlined and defined in a fisheries management plan that would tier to the General Management Plan. The fisheries management plan would address the affects of maintaining the exotic fish/fisheries in relation to native populations and resources. Additional data would be collected concerning

existing native species. Goals would be established in cooperation with the State of Georgia detailing specific projects and activities to be conducted to protect aquatic resources and prevent resource degradation. Where feasible, specific measures would be identified to restore aquatic habitat and water quality to support the reintroduction of native aquatic species.

Integrated Trail System Plan

The National Park Service is currently developing recommendations for a trail system that will tier to the GMP/EIS. The plan will consider design criteria, regulatory requirements, schedule and costs. The plan will consider design criteria and integrate local environmental requirements such as MRPA, appropriate buffers, and floodplain, wetland, and sensitive resource avoidance. Existing trails in the park will be mapped and a database will be created. Park managers have been meeting with local, state and federal agencies and based upon other existing and planned trails in the vicinity of the park, recommendations for linkages along the park corridor will be made. Opportunities for public input will be provided.

Commercial Services Plan

Commercial visitor services planning will identify the appropriate role of commercial operations in the park. This level of planning will assist the park to achieve the desired visitor experiences identified in the General Management Plan, and integrate the results into other plans and planning processes. The concession management plan or commercial services plan will support the park's purpose and significance, resource values, and visitor experience objectives and be consistent with the enabling legislation. The commercial services plan and other implementation plans will also identify whether proposed concession facilities and services are necessary and appropriate, and will consider alternatives.

Partnering

The Chattahoochee River National Recreation Area is uniquely tied to the surrounding communities, and as such is part of a greater social, political, ecological, and historical fabric of the area. The National Park Service must consider how its actions in the park affect the surrounding environment and society. Partnering opportunities should be identified within all future planning and implementation projects. The park will be managed in a manner that proactively resolves external issues and concerns to ensure that park values are not compromised. In order to accomplish this, resources and strategies are needed to establish and foster partnerships with public and private organizations to achieve the purposes and mission of the park.

Partnerships will be sought for resource protection, research, education, and visitor enjoyment purposes. Partnerships are necessary with local, state, and federal agencies and organizations in programs that have importance within and beyond park boundaries. Park managers will be able to use these partnerships to better adapt to changing ecological and social conditions within and external to the park and coordinate regional planning and land management as it affects the park. Some partnerships could be facilitated with local governments in the form of specialized overlay zoning, thereby buffering property adjacent to the park. Attending, or bordering area governments could consider changes to their comprehensive plans to address land use, zoning, permitting and regulatory issues within the view shed of the park. The combined effect of a unified strategy would be an effective public private partnership for increasing values and for preserving the park resources. Creating new economic, environmental and educational partnerships are integral to the success of the park.

Boundary Expansion Feasibility Study

Public Law 95- 625, the National Parks and Recreation Act of 1978, Section 604(b)(4), requires the National Park Service to consider potential modifications to the external boundaries of units of the National Park System as part of the General Management Plan process. The basic servicewide policy document for the National Park Service, NPS Management Policies 2001, incorporates this legal mandate into the planning process, by identifying and evaluating boundary adjustments that may be necessary or desirable in order to carry

out the purposes of the park unit. Boundary adjustments may be recommended to:

> Protect significant resources and values, or to enhance opportunities for public enjoyment related to park purposes;
>
> Address operational and management issues, such as the need for access or the need for boundaries to correspond to logical boundary delineations such as topographic or other natural features or roads; or
>
> Otherwise protect park resources that are critical to fulfilling park purposes.

The Chattahoochee River National Recreation Area can meet this requirement of the General Management Plan process by joining a partnership of private, State, and local government entities committed to protection of green space in the Chattahoochee River corridor downstream (south) of the current National Recreation Area boundary. The Chattahoochee Hill Country Alliance is a nonprofit 501(c)(3) association of private landowners who are partnering with the Georgia legislature and a coalition of seven Georgia counties, the Georgia Department of Natural Resources, the Trust for Public Land, the Georgia Conservancy, the University of Georgia, the Georgia Institute of Technology, the Atlanta Regional Commission and others, has led efforts to protect the river corridor in the region south of Atlanta. In addition to this effort, a tri- county study has just been completed that identified protection of the river from the existing Park boundary southward on the river corridor to the Chattahoochee Hill Country boundary. This study and others by the Chattahoochee Hill Country identify the existing opportunities for expansion of the Park. The Chattahoochee Hill Country has approached the National Park Service for assistance to protect the natural areas of the river corridor southwest of the Chattahoochee River National Recreation Area.

A boundary study is needed to evaluate the resources and costs associated with the potential expansion of the Chattahoochee River National Recreation Area boundary south into the Chattahoochee Hill Country. The study area should include the Chattahoochee Hill Country which is approximately 70 miles downstream from the existing southern boundary of the Park and north of West Point Lake. The Chattahoochee Hill Country has 25 miles of river corridor within its boundary and 40,000 acres of land that will develop according to sustainable design guidelines; saving at least 60% of the land as undeveloped green space. Authority and funding should be sought for this study.

Tracking Cumulative Effects

Central to the natural and cultural resources management is long- term monitoring of the change in condition of natural and cultural resources and related human influences. A planned monitoring program would document improvement or degradation of resources and visitor experiences. The tracking, or monitoring of these changes promotes increased understanding of park resources, natural processes, and human interactions with the environment.

CONSULTATION AND COORDINATION

HISTORY OF PUBLIC INVOLVEMENT

The purpose of the general management plan and environmental impact statement is to present a plan for managing the Chattahoochee River National Recreation Area for the next fifteen years. General management plans represent the broadest level of planning conducted by the National Park Service, and are intended to provide guidance for making informed decisions about the future of the park and specify resource conditions and visitor experiences to be achieved. The GMP/EIS process involves many steps including: identification and confirmation of the park purpose, significance and mission goals; acknowledgement of special mandates, laws, and policies; involvement of the public and identification of issues; development of alternatives; and impact analysis.

The intent of the GMP/EIS scoping process is to provide for early identification of concerns, issues, expectations, and values of existing and potential visitors, neighbors, cooperating associations, partners, scientists, scholars, and other government agencies. Public input gathered during the scoping process is used to assess and compare the effects of each available management alternative.

A scoping letter was mailed to local, state and federal agency representatives, tribal representatives and the public that contained information on the function of a general management plan, statements of the park purpose and significance, information on the planning team and the process for planning, and methods available to the public for communicating with the team and participating in the planning effort. The public was invited to voice issues and suggest ideas for the future of the park at six public scoping meetings held in October 2000 and over a 60 day comment period. Over 200 written comments were received. A majority of the comments expressed concerns about access, facility needs throughout the park, habitat preservation, environmental impacts, different types of use, trails, education, boundaries, fisheries and fishing, and enforcement. In addition, over 20 meetings were also held with more than 50 area Planning and Greenspace Directors and local, State, and Federal agency representatives.

Information from the scoping meetings was used to develop a range of desired future conditions, or prescriptions for the park. Based on the results of the planning process, three management alternatives were developed: Focus on Solitude, Centralized Access, and Expanded Use. In addition, the No Action alternative was also included for analysis. These alternatives were the result of mapping management prescriptions, or kinds and levels of management and use. Each of the alternatives for the park consists of multiple zones with different management prescriptions.

Newsletters and other planning information are available on the project website (https://www.npsplanning.org) to provide the public with information about the planning process and status of the plan. A series of public meetings will be held in during the summer of 2004 to provide information on the alternatives and solicit public feedback on the Draft GMP/EIS.

LIST OF PREPARERS

PLANNING TEAM

Chattahoochee River National Recreation Area

Kevin Cheri, Superintendent

Bill Carroll, Assistant Superintendent

David Ek, Chief of Science and Resource Management

David Libman, Park Planner, Southeast Regional Office

David Hasty, Park Planner, Southeast Regional Office

Denver Service Center

Bill Koning, Park Planner

CONSULTANTS

Parsons

Alyse Getty, Project Manager

Steve Bach, Biological Resources Specialist

Kevin Johns, Senior Planner

Susan Goodfellow, Cultural Resources Specialist

John Martin, Transportation Planning Specialist

Meredith Kirby, Environmental Scientist

Shannon Graham, GIS

Jan Snyder, Editor

John Hoesterey, Technical Director

LIST OF RECIPIENTS

A summary table of the list of recipients is provided in Appendix H.